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THE NATURE OF VYĀPTI

ACCORDING TO THE NAVYA-NYĀYA

By

TARASANKAR BHATTACHARYA, M.A., D.Litt.
Principal (Retd.) Sanskrit College,
Calcutta.

SANSKRIT COLLEGE
CALCUTTA
1970

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FOREWORD

The technique of *śāstrāic* disquisition attained a perfection in ancient and mediaeval India in the hands of Brahmanic, Buddhistic and Jaina philosophers especially that has hardly any counterpart anywhere else in the world. Logic or *ānvīkṣikī* was looked upon as the *sine qua non* of all sorts of scientific deliberation—"*pradīpaḥ sarvavidyānām*". And, at last, with the advent of Gaṅgeśopādhyāya and the New School, it received a definitive formulation, the subtlety of which passes the comprehension of average intelligence.

Anumiti or inferential reasoning is based, as is well known, on the invariable relation between the *probans* and the *probandum.* The nature of this relation, which is technically known as *vyāpti*, has been the subject of animated discussion among rival schools of philosophers in India from the earliest period and an enormous corpus has accumulated round this particular problem. The Cārvāka sceptics deny the validity of inferential cognition, because in their opinion *vyāpti*, supposed to be lying at the basis of inference, is impossible. Both *anvaya-vyāpti* and *vyatireka-vyāpti* are alike inconceivable, as it is impossible to attain to any certitude with reference to either *agreement* or *difference* as between the *probans* and the *probandum.* Even the slightest doubt as to the universality of *vyāpti* is enough to strike at the very root of inference as a source of valid cognition. As it has been so succinctly stated—

yāvaccāvyatirekitvaṃ śatāṃśenāpi śaṅkyate /
vipakṣasya kutas tāvad-dhetor gamanikā-balam //

It has been the endeavour of all philosophical thinkers, except those affiliated to the *Lokāyata*, to substantiate the validity of inference by demonstrating the possibility of the big "inductive leap", The Buddhists have tried to tackle the problem from one direction, the Brahmanic thinkers from another, whereas the Jaina attempt at solution of the apparently insoluble paradox has proceeded along a novel line of approach. Thus various definitions of *vyāpti* have been formulated from varying viewpoints. As Professor Ingalls notes :

"Both the importance and the difficulty of defining pervasion exactly are indicated by the large number of definitions the Naiyāyikas have given of the term and the huge mass of exegetical material that has gathered about these definitions. The *Nyāya-kośa* lists 21 defective and 13 accepted definitions of pervasion. Many of these are associated with the names of individual logicians, as the three definitions of Cakravarti, the three of Pragalbha, the three of Miśra. They are studied in groups such as the *Vyāpti-pañcaka*, the Lion and Tiger Definitions, the Definitions of the *Vyadhikaraṇa-prakaraṇa* etc. There exist hundreds of manuscripts and commentaries on these single groups".*

Dr. Tarasankar Bhattacharya in his present dissertation has made a detailed study of the nature of *vyāpti*, constituting one of the fundamental problems of epistemology, by analysing the various definitions of *vyāpti* discussed in Gaṅgeśa's *magnum opus*, *Tattva-cintāmaṇi*, and has also approached the problem from a comparative viewpoint referring, whenever necessary, to the polemics of eminent Western thinkers, both ancient and modern, that would undoubtedly serve to clarify the statements and enunciations of the great Indian masters on the issue. It is hoped that scholars interested in the subject would readily welcome this contribution of Dr. Bhattacharya as a valuable aid towards the proper understanding of one of the most difficult and bafflingly abstruse problems of Indian Logic.

Sanskrit College,
Calcutta
30. 12. 70.

Bishnupada Bhattacharya
Principal

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* *Materials for the Study of Navya-Nyāya Logic*, pp. 28-29 (*HOS*, Vol. 40).

PREFACE

The Present work (which was my Thesis submitted for the D. Litt. Degree) is an intensive study in Navya-Nyāya (The New School of Indian Logic) with reference to Vyāpti (objective invariable relation between the probans and the probandum) as a condition of inference. The study is based on such works as the Tattvacintāmaṇi of Gaṅgeśa, the Dīdhitī of Raghunātha, the Tattvacintāmaṇi-rahasya of Mathurānātha, the Tattvacintāmaṇi-mayūkha (manuscript) of Jagadīśa, the Bhāvānandi, the Gādādharī, the Anumāna-dīdhiti-prasāriṇī of Kṛṣṇadāsa-Sārvabhauma, the Jāgadīśī, the Bhāṣāpariccheda with the Siddhāntamuktāvalī of Viśvanātha, the Tarkāmṛta of Jagadīśa, the Tarkasaṁgraha with the Tarka-dīpikā of Annambhaṭṭa and others.

I have compared in some cases the views discussed in this work with the views of Western thinkers like Aristotle, Mill, Bradley, Bosanquet, Hobhouse, Johnson, Russell, Eaton, Stebbing, Welton and James. Amongst the works of the afore-mentioned Western scholars, I have drawn on the "Principles of Logic" by Bradley. "Logic" by Bosanquet, "Logic" by Johnson, "Theory of Knowledge" by Hobhouse, "Problems of Philosophy" by Bertrand Russell, "Contemporary British Philosophy" (First Series), "Mind" (Vol. XXI), "General Logic" by Eaton, "A Modern Introduction to Logic" by Stebbing, "Meaning of Truth" by W. James and "Ground Work of Logic" by Welton. For this comparative study the reader is referred specially to the Introdnction, Chapter I and Chapter IV.

In some cases the Navya-Nyāya position has been illustrated by comparison and contrast with the position of some other schools of Indian Philosophy and for this the reader is referred to the Introduction, Chapter IV and Chapter VIII. I have also compared, in some cases, the New School (Navya-Nyāya) with the Old School (Prācīna-Nyāya) and have tried to bring out their differences in some essential points.

In the Introduction I have briefly explained the topics discussed in the chapter on inference by Gaṅgeśa. In the Introduction I have also briefly dwelt on the Navya-Nyāya theory of negation and relation, as the Navy-Nyāya discussions of Vyāpti throughout presuppose the doctrines of abhāva and sambandha.

In a concluding chapter I have attempted a symbolic representation of thirty definitions of Vyāpti discussed in the work and have attempted, in this connection, to bring out their agreement and difference by means of examples in symbols. I believe that it will facilitate comprehension of the real import of the definitions by a reader not specially trained in the technique of the Navya-Nyāya.

I take this opportunity of acknowledging my obligations to late Dr. S. K. Maitra, M. A., Ph. D., late Sir Brajendra Nath Seal Professor of Philosophy, Calcutta University, who was kind enough to revise the whole work and make valuable suggestions. I carried on research in Navya-Nyāya at the suggestion of late Professor Dinesh Chandra Bhattacharya who helped me by lending a manuscript copy of Tattvacintāmaṇimayūkha. I am indebted to him specially. I also mention the names of Dr. Devaprasad Bhattacharya, my son-in-law and Head of the Department of Philosophy, Sripat Singh College, Jiaganj, and of Srī Madhusudan Nyāyācārya, Professor, Post-Graduate Research Department of the Sanskrit College, who requested me to have the book published by the Publication Department of the Sanskrit College, Calcutta. I am indebted to the members of the staff of the Publication Department for taking genuine interest in the publication of the work.

Tarasankar Bhaṭṭacharya

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INTRODUCTION

There is difference of opinion among scholars as to the origin of Navya-Nyāya. According to some, Sivāditya Miśra, an author who flourished not later than the 12th Century A.D., foreshadows the Neo-Nyāya, when he recognises negation as a distinct and separate knowable ultimate or ultimate object (Padārtha)[1], negation being one of the pivotal principles of the Neo-Nyāya. Hence Sivāditya Miśra's work "Saptapadārthī" is supposed to contain the Navya-Nyāya in the germinal form.[2]

Others again consider Gangeśa's famous work, "Tattva-Cintāmaṇi", to be the foundation of the Navya-Nyāya or the New-School. Gangeśa's time is supposed to be within 1350 A.D.

Without entering into controversy with regard to the origin of Navya-Nyāya, we can safely say, that Gangeśa's "Tattva-Cintāmaṇi" marks a new era in Indian thought. It is a very profound work on Philosophy and the various commentaries and subcommentaries on it have proved almost an inexhaustible fountain of discursive thought. These commentaries and sub-commentaries constitute the subject matter of Navya-Nyāya.

Gangeśa recognises four sources of knowledge, perception, inference, comparison and verbal testimony. In inference again he discusses the following topics:—

1. The determination of the Nature of inference as a source of of knowledge (Gangeśa here refutes the view that perception is the only source of knowledge, establishes that inference is also a source of knowledge, explains the nature of inference and shows that Vyāpti or objective invariable relation between the probans and the probandum is the ground of inference).

---

[1] Praśasta-pāda, prameyāḥ padārthaḥ. Vide Nyāyakoṣa, P. 464.

[2] We cannot agree with this view. For the Vaiśeṣika commentators, long before Sivāditya Miśra, recognised negation to be an object different from positive entities and if Sivāditya Miśra anticipates the Navya-Nyāya, they also can be said to do so.

2. The Nature of invariable concomitance (Vyāpti-Vāda);
   - (a) Five provisional Definitions of Vyāpti (Vyāpti-Pañcaka)
   - (b) The definitions of Vyāpti given by the Lion and the Tiger.
   - (c) Negation as detrmined by the essence of an opposed substratum (Vyadhikaraṇa-dharmāvacchinnābhāva)
   - (d) The prima facie definitions of Vyāpti (Vyāpati-pūrva-pakṣa).
   - (e) The conclusive definition of Vyāpti (Vyāpti-siddhānta-lakṣaṇam).
   - (f) General non-existence (Sāmānyābhāva).
   - (g) Specific (Viśeṣa) Vyāpti with its four corollaries (Ataeva-catuṣṭayam).

3. The Method of deriving Vyāpti: the Method of Induction. The Method of Induction is agreement in presence and agreement in absence supplemented by the non-cognition of any contrary instance. Wherever smoke is perceived, fire is perceived; wherever fire is not perceived, smoke is not perceived; smoke is never perceived without fire. So smoke is the invariable concomitant of fire. The Method of Induction also involves two other steps viz, the elimination of any vicious condition (upādhi) attached to the Hetu and the fortification of the Induction by tarka or reasoning.

4. (Extra-ordinary) perception of the entire denotation as the class essence, e. g., the perception of all jars as jar-hood (sāmānya-lakṣaṇā). This Sāmānya-lakṣaṇā is akin to what the modern logicians call "Intutitive Induction." It is held by some modern logicians that there are cases when the apprehension of a single instance gives the apprehension of all such similar instances. Johnson, for example, says: "The-term intuitive is taken to imply felt certainty on the part of the thinker; and it is characteristic of propositions established by intuitive induction that an accumulation of instances does not affect the rational certainty of such intuitive generalisations." (Logic, part II P. 192). When we immediately judge "that a single presented object, whose shape is perceived to be equilateral and triangular, is also equiangular, we are implicitly judging that all

equilateral triangles are equiangular." (Johnson, Logic Part II, P. 193). Gangeśa also says that the objective universal proposition or induction is cognised through the perception of the generic essence. The perception of the co-existence of smoke-hood and fire-hood is the perception of the co-existence of all smokes with fire (TattvaChintāmaṇi, Part II, P. 252. Vide also Māthurī, Ibid). Here the cognition of the generic essence or the generic cognition is equivalent to the cognition of all instances taken denotatively (Jñāta-sāmānyasya sāmānya-jñānasya vā sarvasamānatvāt. Jāgadīśī, Vol, I, P. 333). But this cognition of the entire denotation is not an ordinary sensuous perception, but is an extra-ordinary perception. The perception of the generic essence is ordinary cognition, but the knowledge of the entire denotation does not come within the range of ordinary sensuous perception; so it is described as extraordinary perception.

Thus the Nyāya Sāmānya-lakṣaṇā is parallel to the Intuitive Induction of modern Logic. But the two are not identical. There is distinction between them. According to the Nyāya, the knowledge of the generic essence or connotation is equivalent to the knowledge of the entire denotation. But Intuitive Induction is the apprehension of one individual instance yielding the felt certainty of all instances. The knowledge of this individual instance is not the knowledge of the class-essence or connotation.

5. The conditional reason.

6. The state of being the subject of inference or subjecthood (Pakṣatā).

7. Consideration, or the cognition of the concomitant as existing in the subject.

8. Inference based on empirical evidence of co-presence only.

9. Inference based on empirical evidence of co-absence only.

10. Presumption.

11. Steps of an inferential reasoning.

12. Fallacies of inference.

13. The Nyāya Theistic inference.

Let us add some notes on (5), (6), (8), (9), (10), (11), (12), (13).

(5) When the Hetu (the probans or reason) has a limiting condition or adjunct, we get a conditional reason (Hetu). In the in-

ference, for example, "the red-hot iron ball has smoke, as it has fire," there is a limiting adjunct attached to the Hetu 'fire' and this is the state of being supported by wet-ful. This limiting adjunct (upādhi) pervades the sādhya (the object to be inferred), 'smoke,' but not the Hetu 'fire.'

(6) Pakṣatā (subject-hood) means the non-existence of the non-esistence of the desire to prove. Pakṣa (the subject of inference) means the object in which there is a doubt of the sādhya (the inferent). Sapakṣa means the object which has the inferent (sādhya) without any doubt. Vipakṣa means the object which has undoubtedly the non-existence of the sādhya (the inferent).

(8) Inference based on empirical evidence of co-presence only (kevalānvayī anumāna)—In this inference the sādhya (the object to be inferred) is universally present. In the inference "All things are namable, as they are knowable," the sādhya—(the inferent) is universally present, because all things are namable.

(9) Inference based on empirical evidence of co-absence—only (Kevala-Vyatirekī anumāna)—In this type of inference, the sādhya (the inferent) exists only in the Pakṣa (the subject of inference) and nowhere else. Here the Hetu (the reason or the probans) is only negatively related to the sādhya (the object to be inferred) and thus the ground of inference is negative invariable concomitance. In other words, in this type of inference, the non-existence of the Hetu (the reason) pervades the non-existence of the sādhya (the inferent). Consider the inference, "Earth is different from other things, as it has smell." Here the ground of inference is the vyatirekī vyāpti, "The non-existence of differenee from other things is the non-existence of smell".

The ordinary type of of inference is called anvaya-vyatirekī, but here the conclusion may be based on both positive invariable concomitance and negative invariable concomitance. e.g., "Whatever is smoky is fiery, the hill is smoky, therefore, the hill is fiery;" or "Whatever is non-fiery is non-smoky; the hill is smoky; so it is fiery."

(10) Presumption (arthāpatti)—If a stout and strong man does not eat at day time, the presumption is that he eats at night. Pre-

sumption is thus held to be a source of knowledge by the Mīmāṁsakas. But the Naiyāikas do not regard it as a separate source of knowledge, but include it within inference. The purpose of the presumption, they think, is served by the cognition of Vyatirekī-vyāpti (negative invariable concomitance). Let us take the case of the stout man postulated to be eating at night and see how this postulation is really an instance of inference.

The non-existence of eating is the non-existence of stoutness.
This man is an instance of stoutness.
Therefore, this man is an instance of eating.

Thus it is proved, that this stout man eats and if his eating at day time is contradicted, it is proved that he eats at night.

(11) Steps of an inferential reasoning—The Nyāya distinguishes between the inference for the self, i. e., the psychological inference, and inference for others, i. e. the logical inference. The logical inference consists of five steps. These are:—

(1) Pratijñā—This has fire.
(2) Hetu —For there is smoke.
(3) Udāharaṇa—All things having smoke have fire, e.g., the kitchen.
(4) Upanaya—This has smoke which is pervaded by fire.
(5) Nigamana—Therefore this has fire.

This inference is both formally and materially true. The inference for the self or the psychological inference, on the contrary, need not be stated in any logical form. Here a man by repeated observation of the co-existence of smoke and fire in the kitchen etc, takes smoke to be the invariable concomitant of fire; now when he perceives smoke on hill, he recollects that whenever there is smoke, there is fire; after this recollection he has the knowledge that the hill has smoke which is pervaded by fire; lastly, there arises the inferential knowledge in this mind that the hill has fire (vide Tarka-saṁgraha, 49).

It has been contended by the Mīmāṁsakas that the first three or the last three of the five steps in the logical inference are sufficient to give the inferential conclusion. The Vedāntist again considers the first three steps as essential to inference, the other two being superfluous. The Budhists go a step further and think that only two steps are necessary in an inference and they are the Udāharana and Upanaya (the third and fourth steps of the Nyāya Logical inference). But the Nyāya thinks that all the five steps are necessary if a man is to convince another of the truth of the inferential conclusion. A, for example, shows B smoke on the hill and tries to convince him by argument that there is fire on the hill. In the first place, A asserts that he will prove that the hill has fire (Pratijñā.) in order that B may definitely know what A has to prove. This assertion has a psychological effect on B. He makes up his mind to follow the reasoning of A, But when A asserts that the hill has fire, B may enquire the reason of it and accordingly A gives the reason. So the next step is: "For there is smoke" (Hetu). But after this B may think; "Why should there be fire even though there is smoke"? Thus naturally the third step is, "Wherever there is smoke, there is fire, e.g; the kitchen." (Udāharaṇa). But again B may think that though the kitchen has the co-existence of smoke and fire, the hill may not have the same. So he is reminded that the hill has smoke which is an invariable concomitant of fire (upanaya). After this it is definitely asserted that the hill has fire (nigamana).

(12) Fallacies of Inference (Vide Tarkāmṛta of Jagadīśa).

The Nyāya fallacies are all material. The principal fallacies are:

(1) Savyabhicāra (inconstant reason) with its three subdivisions viz (a) sādhāraṇa (common), (b) asādhāraṇa (uncommon) and (c) anupasaṁhārī (inconclusive).

(a) Sādhārana—In it the Hetu (the probams) exists in the locus of the non-existence of the sādhya (the probndum), e. g, "The hill has smoke, as it has fire". In the red-hot iron-ball smoke is absent, but fire is present.

(b) Asādhāraṇa—Here in all the substrata which have the sādhya (the inferent) the Hetu (the reason) does not exist, e.g,"the hill has fire, as it has hill-hood." Hill-hood exists in the hill, but is absent in the kitchen, yard etc, where fire may exist.

(c) Anupasaṁhārī—Here everything is the subject of inference, i. e, in this fallacy, the sādhya (the inferent) and the Hetu (the reason) are nowhere absent. This fallacy stands in the way of the cognition of vyatireka-vyāpati (negative invariable concomitance).

(2) Virūddha(contradictory reason)—When the Hetu (the probans) is pervaded by the non-existence of the Sādhya (the inferent), we have a contradictory reason.

(3) Satpratipakṣa (counterbalanced)—When there is a counter reason (Hetu) which proves the non-existence of the inferent (sādhya), we have this fallacy.

(4) Asiddha (Unfounded reason)—This is of three types: —

(a) (Aśrayāsiddha (the unfoundedness of the subject of inference)—Here the Pakṣa (the subject of inference) is non-existent or unreal, e. g, "The hare-horn is eternal, as it is uncaused."

(b) Svarūpāsiddha (Unfoundedness of nature)—In this case the Hetu (the reason) is absent in the Pakṣa (the subject of inference), e. g, "The hill has fire, as it has kitchen-hood."

(c) Vyāpyatvāsiddha (Unfoundedness of concomitant-hood)—When the Hetu has a limiting adjunct (Upādhi), we have this fallacy, e g, "It has smoke, as it has fire supported by wetful."

(5) Vādhita (Incongruous)—When the Sādhya (the inferent) does not exist in the Pakṣa (the subject of inference), we have this type of fallacy, e.g, "The watery lake has fire, as it is a substance."

(13) The Nyāya Theistic Inference—The arguments brought forward by the Nyāya for the existence of God include almost all forms of the arguments for the existence of God of Western Philosophy. But the causal argument figures prominently in the Nyāya works:

The earth composed of dyads etc has a cause (Pratijñā).
For it is an effect (Hetu)
All effects have cause, e.g., the jar (Udāharaṇa).
(See Tarkāmṛta of Jagadīśa).

The Section (2) with its seven chapters is called the Vyāpti-Vāda and contains discussions on the nature of Vyāpti or the invariable objective relation between the probans (the Hetu) and the Probandum (the sādhya) as a condition of inference. In this treatise we propose to explain the nature of Vyāpti as conceived by Gangeśa and his commentators. Our study shall be confined to the commentaries and sub-commentaries of Raghunātha (15th Century A.D.), Mathurānātha (late 16th Century A. D.), Jagadīśa (late 16th Century A. D.), Gadādhara (17th Century A. D.), Kṛṣṇadāsa Sārvabhouma (Early 16th Century), Bhavānanda (Middle of the 16th Century) and others.[3] Preliminary works like the Bhāṣā-pariccheda with the Siddhānta-Muktavalī of Viśvanātha, the Tarkāmṛta of Jagadīśa, the Tarka-saṅgraha of Annam Bhatta and others will be used. We shall also use Babu R. N. Ghose's "Navya-Nyāya", a translation, in Bengali, of Mathurānātha's Vyāpti-pañcaka-Rahasya, with profit. Lastly, a manuscript-copy of Jagadīśa's Tattva-cintāmaṇi-Mayūkha, an original commentary on the Tattva-cintāmaṇi, will also be utilised. This manuscript was kindly lent to me by Professor D. C. Bhattacharyya, my colleague in the Hooghly Mohsin College.

Two objects are fundamental in the Navya-Nyāya discussions on the nature of Vyāpti and these are negation and relation. Let us briefly indicate the nature of these two, as conceived by the Navya-Nyāya, in the introduction.

Negation is a knowable ultimate (Padārtha), because it is perceived to be characterising the place where the negation is i. e., where something is negated. But it cannot be identified with other knowable ultimates like substance, quality, action, universal, Viśeṣa* and inherence, because they are positive entities and negation is other than affirmation.[4] And though it is a quality or meaning of its substratum, it is quite unlike any other quality. For all other qualities inhere or are internally lodged in their substrata, but negation does not abide in the relation of inherence in its locus, inasmuch as a negation can be removed. The place where the jar does not exist, is qualified by the non-existence of the jar; but if the jar is replaced, then there is no longer the negation of the jar on the ground. Negation, therefore, does not inhere in its substratum, but resides in it in self-relation (Svarūpa-sambandha), so that the negation itself is both relatum and relation and is knowable as a distinguishable character of the locus. The Nyāya calls it Viśeṣaṇatā or adjectivity which is a variety of svarūpa-sambandha or self-relation, e.g., the table without the chalk means according to the Nyāya the table distinguishable by withoutness in respect of the chalk.

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[3] For the historical sketch of these authors Vide, S. C. Vidyabhusana, History of Indian Logic.

[4] Siddhānta-Muktāvalī on the verse No : 12 of the Bhāṣāpariccheda. CF. Hobhouse: Theory or knowledge, p. 154-"The negative judgment rejects or excludes the content which the affirmative accepts, and from this point of view negation is the contrary attitude of affirmation."

* Viśeṣa is the ultimate differential. It is that which differentiates the eternal substances (atoms) from one another. It inheres in the atoms, so that they art differentiated from one another by themselves.

Negation not only implies the place which it qualifies, but also something negated. Negation, without reference to something negated, is inconceivable. Negation thus has both a locus or substratum and a negatum (the object negated). The fommer is called the Anuyogī and the latter Pratiyogī.[5] The anuyogī is determined by non-existence whose necessary pratiyogī or negatum* signifies that some affirmation must precede negation. A denial in itself and by itself is unmeaning, though denial is not identical with affirmation, i. e. to deny is not ipsofacto to affirm something. We may make the negative judgment, "The sky-flower does not exist." But in making this negative judgement, we do not affirm its negatum.

These ideas, viz, that the substratum of negation is qualified by it, that there is no negation as such, and that some amount of affirmation must be anterior to negation, have parallel in modern Western Logic. Thus Bradley says: "The affirmative judgment qualifies a subject by the attribution of a quality, and the negative judgment qualifies a subject by the explicit rejection of that same quality."[6] Again, he remarks: "Mere denial, however, rests in abstract exclusion, which as abstract is really nothing."[7] Here Bradley definitely is of opinion that non-existence is a quality of the real or the substratum and that there cannot be any negation qua negation. Similarly observes Welton: "We must have a positive ground for our denial, or it would be a mere-set of words without meaning."[8] Bosanquet also thinks that some kind of affirmation precedes negation. He asserts: "On the other hand, negation does presupose some affirmation, that is, the affirmation of a state of facts which, being, judged true as a whole, carries with it the problematic affirmation, the affirmation as a possibility or enunciation as a conception in the world of meanings, of the idea 'suggested'. In this respect, therefore, affirmation is in the beginning of knowledge, at any rate, prior to negation."[9] What Basanquet means here is that when we make a negative judgment, e.g, "The rose is not black", we mean that the rose has some other colour, say red, but not black. The fact is that there may be a problematic suggestion that the rose is black. This problematic suggestion is excluded, when the negative judgment, "The rose is not black" is made. Primarily negation is thus "the exclusion of a suggested qualification of reality" (Bosanquet: Logic, Vol. I,P. 281). But negation ipsofacto does not presuppose the affirmation of what is denied.

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[5] CF. Bradley: The Principles of Logic, Vol. I, p. 159-"In all negation we must have the assertion of a positive ground."

[6] Ibid, p. 116.

* We use the word negatum for the object negated (Pratiyogī), just as the word relatum stands for the term related (Pratiyogī). The negatum is a positive entity in the case of a single negation, but in the case of double negation, the negatum itself is a negatiou.

[7] Ibid., p. 127.

Negation is divided, in the first place, into negation other than reciprocal negation (saṁsargābhāva, literally, negation of relation-ship) and reciprocal non-existence. Reciprocal non-existence means that when two things cannot be identified, one is not the other. It is the negation of an object in the relation of identity (anyonyā-bhāvatvam tādātmya-sambandhā-vacchinna-pratiyogitākā-bhāvattvam; Siddhānta-Muktāvalī on verse No. 12 of Bhāṣā-pariccheda). The judgment, "the cloth is not the jar" exemplifies this type of negation. In the relation of identity the cloth is the cloth and it is different from the jar. In other words, the cloth is not the jar in the relation of identity. The negation other than reciprocal non-existance is subdivided into antecedent negation, negation which is destruction and absolute negation. The antecedent negation is amenable to destruction. It is negatived by a future affirmation. When we say that the jar will be produced, we have an idea of the non-existence of the jar at present. Here there is a non-existence of the jar previous to its coming into being. This non-existence is removed as soon as the jar comes into existence.

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[8] Welton: Groundwork of Logic, p. 47

[9] Basanquet: Logic, Vol. I, p. 280

The negation which is destruction is caused. Here the affirmative is removed and negation appears, whereas in the former (antecedent negation) the affirmation appears on the removal of negation. The proposition, "The jar has been destroyed," is an instance of the non-existence of the jar caused by its destruction.

Absolute negation is the non-existence of eternal relationship (Nityasaṁsargābhāvatvam, atyantābhāvatvam. Siddhānta Muktāvalī on verse 12 of Bhāṣāpariccheda of Viśvanātha). The proposition "Consciousness is absent in the jar" is an instance of absolute negation, as consciousness can never be present in the jar. Again the judgment, "The jar does not exist" is also a case of absolute negation. The perception "the jar does not exist" brings an idea of negation which is also absolute negation, because the absence of any eternal connection or relationship is absolute negation. In whatever substratum the jar is absent, there is its absolute negation there, because there is no eternal relationship between this substratum and the jar. When the jar is absent on the hill, there is its absolute negation there; when the jar does not exist on the ground, the ground has the absolute non-existence of the jar and so on. Similarly, when the jar is destroyed, there is the absolute negation of the jar in the locus of this destruction. In the same manner, when we say, "the jar will be," there is its absolute non-existence in the locus of this antecedent non-existence. In other words, the absolute negation, "the jar does not exist," implies the negation of the jar at some locus with which it is not eternally united and in which it is absent. If a jar is taken away from some other locus and placed in this locus, then there will no longer be its absolute non-existence in this locus; on the contrary, the locus from which it is taken away, will have its absolute non-existence. It is for this reason that some logicians call this negation, i. e., the negation that the jar does not exist, to be a fourth type of negation which has origin and destruction(utpāda-vināśaśālī caturtho'yamabhāva iti kecit, Siddhānta-Muktāvalī on verse 12). But the majority of the Logicians of the New School consider this type of negation also to be absolute negation. For they think that either there is the affirmation of a jar at a place, or its negation. When it is absent in a place, its negation at that place is absolute and when it is present in a place, the question of its negation at that place is absurd.

But absolute negation, understood in this sense, is different from that of the Old School of Indian Logic (Prācīna-Nyāya) and has hardly any parallel in Western thought. For according to the New School, though the judgment "the jar does not exist" is a case of absolute negation, yet during the time when the jar is actually present, one does not judge that the jar is absent. It means that when the jar is absent, it has absolute non-existence. But when the jar is present, the question of its negation does not arise. In other words, when there is the negation of an entity, it has absolute negation; but when it has no negation, we should not raise the question of negation. The Old School, on the contrary, thinks that absolute negation consists in absolute impossibility. The proposition, "consciousness is absent in the jar" is a case of absolute negation, as consciousness is a quality of the embodied soul and not of any material object. But the proposition"the jar does not exist on the ground" is not a case of absolute negation, because the jar can exist on the ground. From this standpoint the Old School objects against the New School, "In the substratum of the non-existence pertaining to destruction or of previous non-existence, there is no absolute non-existence. The notion that there is no red colour in the jar where chemical action has not changed the colour, and the notion that there is no dark colour in the red jar, mean respectively previous non-existence (of the red colour) and non-existence pertaining to destruction (of the dark colour), but not absolute non-existence (of the red and dark—colour respectively); for they are contradictory to the latter." In simple words, the force of this objection lies in the fact[10] that in antecedent negation there is only a temporary negation and hence there cannot be any absolute negation, i. e., negation for all times, in its locus. The dark colour of the jar will change and turn into red by chemical action. But before such chemical action, it has the absence of red colour. This negation is an antecedent negation whose substratum has no absolute negation of red colour. Similarly, when the dark colour is destroyed by chemical action in the jar, the jar cannot be said to have the absolute non-existence of the dark colour, as dark colour was present before destruction.

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[10] Svami Madhavananda; Bhāṣā-pariccheda with Siddhānta Muktāvalī

Against this objection the New School urges that there is no proof of the above contradiction and hence absolute non-existence can be present in the substratum of antecedent negation and destruction. There is no contradiction, for example, between the judgment, "the jar will be" (antededent non-existence) and the judgment, "the jar does not exist" (absolute non-existence). Hence in the substratum of antecedent non-existence there can be absolute non-existence. Raghunātha explains how absolute negation abides in the locus of destruction. An entity has absolute negation, when it does not exist in a particular point in space, though it may exist at some other point in space at that very time. So the time, which has the destruction of a thing, has also the absolute negation of that thing. In other words, the locus of destruction has absolute negation by its very nature (Dīdhiti, Jāgadīśī-siddhānta-lakṣaṇam, Benares, p. 104-105).

Thus according to the New School, there is absolute non-existence in the locus of antecedent non-existence and destruction. But the negation other than reciprocal non-existence, has three subdivisions, absolute non-existence, antecedent non-existence and destruction. And if absolute non-existence is present in the substrata of antecedent non-existence and destruction, it follows that absolute non-existence is a wider object which includes the other two. The result is that the negation other than reciprocal non-existence, i.e., the negation of relationship (saṁsargābhāva) becomes the same as absolute negation. In fact, Pakṣadhara Miśra, a very prominent commentator on the Tattvacintāmaṇi, takes absolute negation to mean saṁsargābhāva or negation other than reciprocal negation. But this is a conclusion which does not appeal to the Old School. So they do not think that there can be absolute negation in the substratum of antecedent non-existence or destruction.

In western thought also absolute negation is not understood in this sense. What Johnson calls "pure negation"[11] seems apparently to have similarity with the absolute negation of the Navya-Nyāya. But there is wide difference between the two. For Johnson's first form of pure negation is the attitude of rejection of an affirmative proposition. Here "the negative element does not enter within the content of the assertum, but expresses merely a certain mental attitude to the proposition itself."[12] But in the Navya-Nyāya the absolute negation of an entity is perceived to be characterising a place and is not merely a mental attitude.

Johnson's second form of pure negation, represented by a proposition like, "wisdom is not blue," where "certain types of adjectives cannot be predicated of certain types of substantives"[13] is akin to the absolute negation of the Navya-Nyāya in meaning but not in form. The proposition "consciousness is absent in the jar" is an instance of absolute non-existence which implies that consciousness never characterises the jar. Similarly the proposition "wisdom is not blue" means that the attribute blue is never a characteristic of wisdom.

Antecedent non-existence is not caused by anything, but is not eternal. It is not caused because, it is meaningless to suppose a cause for the non-existence of a thing which will come into being in future. It is not eternal for the simple reason that the negation will cease as soon as the thing will come into being through the action of its cause. Thus antecedent non-existence has no beginning in time, but is not without end and, therefore, is not absolute (Here absolute non-existence is taken in the sense of eternal absence, e. g., the absence of consciousness in the jar).

Non-existence which is destruction has a cause, but is eternal. When the jar, for example, is destroyed by something, it cannot be affirmed again. Thus destruction is eternal, but caused, and hence is not absolute.

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[11] Johnson: Logic, Part I. P. 66.

[12] Ibid.

[13] Ibid. p. 67.

Both absolute negation (taken in the sense of eternal absence) and reciprocal non-existence have neither origin, nor temporal limitation. The proposition, "consciousness is absent in the jar" is true for all time. Similarly, in the proposition "the cloth is not a jar" the cloth and the jar can never be identified. Reciprocal non-existence is also called difference.[14]

Absolute negation has several varieties. The first is the negation of all the particulars of a class. The proposition, "the jar in general is not in this room," means the negation of any type of jar, blue, red, etc, in the room. The second is the negation of two things, at a time (Ubhayābhāva) e.g., the negation of a jar and a cloth at the same time. The substratum of the absence of both the jar and cloth is the locus of this negation. The third type of absolute negation is the non-existence of one or other of two alternatives (anyatarābhāva), e.g., either the jar or the cloth does not exist here. The fourth is the non-existence of a qualified entity and may be called the negation of a qualified thing (Viśiṣṭābhāva). When we say that the blue jar does not exist, we have such a negation. The next is the negation of an object as determined by its non-existence in a particular relation in a substratum (Vyadhikaraṇasambandhā-vacchinna-pratiyogitākābhāva). The jar, for instance, does not exist in the relation of identity on the ground. The negation of the jar, as determined by its non-existence in the relation of identity on the ground, therefore, is a case of such negation. A negation of this kind is Kevalānvayī (a negation that exists everywhere), because the jar is universally negated in the relation of identity on the ground which may be called its contradictory substratum considered from the relation of identity. The ground is not the contradictory locus of the jar from the standpoint of other relations, for example, the relation of conjunction. There is a contact of the jar on the ground, when the jar is placed on it. But there cannot be an identity between the jar and the ground which, therefore, is its incompatible locus (Vyadhikaraṇa) in the relation of identity.

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[14] CG. Hobhouse: The Theory of Knowledge, p. 155: "I conclude that negation is normally, but not always, equivalent to an affirmation of more or less definite difference, and the more highly developed, i. e., the more fruitful the negation, the more precise the difference."

The last kind of negation is the non-existence of an object as determined by the essence of an opposed substratum (Vyadhikaraṇa-dharmāvacchinna-pratiyogitākābhāva). A does not exist in the character of Bness. Here Bness exists in B and it is the essence of an incompatible substratum in respect to A. So A does not exist as Bness. This type of negation was recognised by Sondala Upādhyāya.

The last two negations are found only in the New School. The negation other than mutual or reciprocal negation with its three subdivisions and the mutual negation are common to both the Old School and the New. But there is distinction between the two Schools[15] with regard to the nature of absolute negation, as we have already seen. There is also difference between them with regard todouble negation or negation of negation. According to the Old School, the negation of absolute negation is affirmation, whereas some exponents of the New School think that the negation of absolute negation is a positional negation (Bhāvarupī-abhāva). The negation of the negation of the jar is the jar, but is at the sametime a negation. Hence the jar here may be called positional negation. Here the judgmental import is negative, though the object arrived at by double negative is the original positive object negated by the primary negation. Now this jar, which is a positional negation, may exist in different substrata and yet its nature will not change. The negation of the negation of the jar on the ground, for instance, is the same as the negation of the negation of the jar on the table. But in the case of a single negation, the difference of substratum marks the negation as different. The negation existing on the hill is different from the negation existing in smoke. Some writers, however, think that this view (i. e, the difference of substrata makes negations different) results in the admission of an infinite number of negations. Hence for the sake of simplicity, they hold that negation differs, if its substrata are incompatible. Thus the non-existence of conjunction in quality and the non-existence of conjunction in substance are different, as conjunction may exist in a substance, but not in quality. Here substance and quality are incompatible substrata of conjunction.

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[15] Vācaspati Miśra in his Nyāya-vārttika-tātparya-tīkā admits the negation other than mutual negation with its three-subdivisions and mutual negation. He calls the latter-tādātmyābhāva (negation of identity).

Relation, like negation, plays a very prominent part in the literature of the New School of Indian Logic (Navya-Nyāya). The critical discussions on the nature of Vyāpti in the commentaries of Raghunātha, Mathurānātha, Jāgadīśa and the sub-commentaries of Gadādhara, Jagadīśa, Bhāvananda and others abound in numerous relations unknown to the commentators of the Old School. The principal relations in the Old School are conjuction and inherence, though several other relations are recognised. Uddyotakara, in discussing the nature of perception, adopts the Vaiśeṣika conception of the different types of sense-contacts which are the variants of conjunction and inherence.[16] Attributiveness or adjectivity (Viśeṣaṇtā), which is the mediating relation in the perception of negation, is another relation added to conjunction and inherence. The negation of the jar on a particular spot on the ground, for instance, is a distinguishing character of that spot. In the perception of this negation the eye is united with the ground characterised by the negation of the jar. Withoutness, therefore, is perceived by conjunction through the relation of adjectivity.[17] This relation of attributiveness is also called self-relation (svarūpa-sambandha) in the Navya-Nyāya. When the relation itself is a relatum we have Svarūpa-sambandha, i.e., when the relation is related through itself and not through any other second relation, we have an instance of self-relation (svarūpa-sambandha). Hence the relation of negation to its substratum is a case of svarūpa-sambandha.[18]

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[16] The different types of contact between the sense and the positive object are the following:

(a) Conjunction:—An external object like the tree is perceived through conjunction with the eye (This is a direct relation—sākṣāt sambandha).

(b) Conjoined-inherence:—In the perception of the colour of a thing, the eye is conjoined with the thing in which colour inheres (This is an indirect relation or a mediated relation—paramparā sambandha).

(c) Conjoined-inherent-inherence:—When we perceive colour-hood. the eye is conjoined with the object in which colour inheres and in this colour again colour-hood inheres.

(d) Inherence:—Sound, when perceived, inheres in the ear-hole.

(e) Inherent-inherence:—Sound-hood inheres in the sound which again inheres in the ear-hole.

[17] Vide, Tarkasaṁgraha, 44, of Annam Bhatta.

The causal relation is also recognised by the Old School. But the three kinds of causes, like the inherent cause, the non-inherent cause and efficient or auxiliary cause, show that the causal relation can also be resolved into those of inherence and conjunction. The inherent cause is the substratum in which the effect inheres, e. g., the cloth inheres in the threads. The cause which is related by inherence with the inherent cause is the non-inherent cause. The Siddhānta-Muktāvalī's explanation of the nature of this relation shows that the non-inherent cause also is determined by the relation of inherence ; "Now, the non-inherent cause may be connected with the cause in two ways by being connected with the same object as the effect is, or by being connected with the same object as the cause is. An example of the first is this : The conjunction of the two halves of a jar is the non-inherent cause of the jar and so on. Hence, the cause, viz., the conjunction of the two halves, is connected with the same object, viz., the two halves, as the effect, the jar, is. An instance of the second : The colour of the two halves of a jar is the non-inherent cause of the colour of the jar. Hence the jar is the inherent cause of the colour etc., belonging to it ; and this colour is connected with the same object, viz., the two halves, as the jar is. In other words, (the non-inherent cause is connected with the inherent cause) sometimes (directly) through the relation of inherence, and sometimes 'indirectly' through the relation of inherence in that in which it itself inheres. "Lastly, the efficient cause like the loom etc., in the production of the cloth, bears the relation of conjunction to the threads, and so on.[19]

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[18] Vide page 8. For a detailed discussion of the svarūpa-sambandha, vide "Studies in Philosophy & Religion" P. 205-208 by Dr. S. K. Maitra.

[19] Swami Madhavananda, Bhāṣā-pariccheda with Siddhānta-Muktāvalī p. 25-26.

The relation of Identity is another relation mentioned in the Old School. Vācaspati Miśra in his Nyāya-Vārttikatātparyatīkā speaks of the mutual negation as the Negation of Identity (tādātmyābhāva) and this shows that the Relation of Identity has a place in the thought of the Old School.

With regard to Space relation and Time relation, the Old School thinks that they are qualities. The spatial relations, like remoteness, nearness etc., and temporal relations of pastness, futureness, etc., are species of adjective pertainining to space and time.* The New School also takes them to be qualities. They are are called in it daiśika-viśeṣanatā (adjectivity pertaining to space) and Kālika-viśeṣaṇatā (adjectivity pertanining to time) which are varieties of self-relation (svarūpa-sambandha). That the Old School also takes finite space and time as both qualities and relations is indicated by Jagadīśa in his subcommentary on the Dīdhiti of Raghunātha on the Siddhāntalakṣaṇa of Gāngeśa's Tattava-chintāmani. Jagadīśa here says that the Old School takes the absolute negation of cow to be non-existing in time in space relation (daiśika-viśeṣanatā).[20]

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[20] Jāgadīśī-Siddhānta-lakṣaṇam, Benares, p. 103-104.

* A relation is not a quality according to some schools of Western thinkers. The predicate of a proposition may be a quality, but the relation between the subject and predicate is never so according to some. The space relation is taken by the contemporary realists to be a substantive and not an adjective. But the Nyāya conceives spatial and temporal relations to be qualities. The reason of this lies in the fact that Nyāya takes infinite space and infinite time to be substances and the finite spaces and the finite times as upādhis (limiting adjuncts) of them. And a limiting adjunct being a quality, the spatial relations of nearness and remoteness and the temporal relations of pastness and futureness are qualities.

It may be noted here that Johnson speaks of the adjectival nature of relations. He thinks that relations can be taken to be adjectives in some cases. Consider, for example, the proposition, "He is afraid of ghosts." Here the phrase "afraid of" is the relational component of the proposition. This relational component is an adjective of the "substantive-couple," "he" and "ghosts." "In other words, a relation cannot be identified with a class of couples, i. e., be conceived extensionally; but must be understood to charac-

These are the several relations recognised in the Old School and the principal relations among those are conjunction and inherence. The New School, on the contrary, recognises, in addition to these, almost an indefinite number of relations quite a good many of which figure very prominently in its argumets. We shall enumerate several main relations of this school.

But before enumerating these relations let us explain briefly the nature of relation as conceived by the Navya-Nyāya.

The New School agrees with the Old that a relation is perceived. Vātsyāyana in his Bhāsya on the Nyāya-Sūtra says that a relation is seen, i. e., perceived.[21] Similarly, Viśvanātha says that conjunction is an object of the eye and "the perception of inherence is due to the relation of attributiveness".[23] Here the Nyāya view is akin to the conception of Bertrand Russell that we have knowledge by acquaintance, i.e., direct knowledge, of relations. A relation, according to him, is a substantive and a substantive, he thinks, is a

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terise couples, i. e., be conceived intensionally." Johnson, Logic, Part II p. XII-XIII.

But Alexander and Russell do not take relation as adjective. Alexander, for example, was inspired by the view of William James that the space relation is a substantive. William James says in his "Meaning of Truth," p. 138: "The terms were spaces and relations were other intervening spaces." Alexander goes a step further and asserts that "What James says of space and Time and other ambulatory relations is true of all relations" and a "relation may be as substantive as the terms" 'Mind, Vol. XXI, p. p. 307-308). Bertrand Russell also does not consider a relation to be an adjective. He says in the "Contemporary British Philosophy," First Series, p. 373: "A relational proposition is not, in general, logically equivalent formally to one or more subject-predicate proposition. Stated more precisely: Given a relational propositional function "X Ry" it is not, in general, the case that we can find predicates (a, B), such that for all values of x and y, x Ry is equivalent to xa, yb, (x, y) r {where (x,y) stands for the whole consisting of x and y}, or to any one or two of these."

[21] Vātsyāyana-Bhāsya on the Nyāya-Sūtra of Gotama, I. i. 5.

[22] Bhāṣā-pariccheda, verse, 54.

[23] Ibid, verse 61. Swami Madhavananda's translation.

universal, But we have "acquaintance with universals" (problems of Philosophy, P. 246). So we have acquaintance with relations.

A relation forms an integral part of the object cognised. The object is a synthesis of a substratum, qualities and the relation between them. Viśvanātha observes :: "The notion that a thing is possessed of qualities, actions, etc, is based on three things, something that is qualified (viseṣya), a qualifying adjunct (viśeṣaṇa), and a relation between the two."[24]

Some relations are intimate with the terms related, while other relations are external or adventitious which the terms may be with or without.

Relation enters into diterminate cognition. Relations are necessary elements in all our determinate judgmental experiences,

Every relation implies two terms one of which is said to rest on another, The term which rests on a substratum is called the Pratiyogī and the substratum is called the Anuyogī. The same pratiyogī (relatum) may bear more than one relation to its anuyogī (substratum). The jar, for example, exists in the relation of conjunction and in time relation on the ground.

Relation is not a separate knowable ultimaae (Padārtha). It is included in the seven ultimate objects (Padārtha). . It becomes this Padārtha or that according to circumstances. Inherence, for example, is itself a Padārtha, conjunction, again, is one of the twenty-four qualities and so on.

Of relations some are called vṛttiniyāmaka in the sense that they produce the consciousness of a support and a supported. Such, for example, are the relations of conjunction. inherence etc. Some others are called vṛttyaniyāmaka in the sense that they produce no idea of support and supported. Such are relations of identity (tādātmya), location-hood (adhikaraṇatā), collective extensity (paryāpti), etc. Conjunction explains the existence, for example, of a jar, on the ground ; inherence defines the existence of quality, action and generic attribute in their substrata ; self-relation marks out the existence of negation in its locus and so on. On the contrary, the jar, for example, is identical with itself, but does not exist in the relation of identity on the ground ; a thing or a quality, again, exists in a locus in the relation of conjunction or inherence. but not in the relation of location-hood and so on.

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[24] Siddhānta-Muktāvalī, II. (The English rendering is taken from Madhavanda's translation).

Having thus described the general nature of relation, let us now enumerate the important ones among them[25] :—

(1) Conjunction (saṁyoga)—The relation of one substance with another is called conjunction. Negatively we may say that conjunction is a relation that never holds between two padārthas of different ontological status, e. g., it never holds between a quality and a substance or a quality and action and so on. Conjunction itself again is a quality and as such inheres in a substance. The substance A, for example, stands on B and, therefore, has the relation of conjunction with B. Here conjunction is a quality of A and also of B.

(2) Inherence (samavāya),—It is an intimate and permanent relation between a whole and its part and between a substance and quality, action, universal and the ultimate differential. The Siddhānta-Muktāvalī brings forward an argument to prove its permanence.[26] In the knowledge of substance possessing quality there are the qualified, the quality and a relation between them. But this relation, cannot be conjunction ; for conjunction obtains between two substances, Nor can it be svarūpa sambandha (self-relation). For in that case we have to assume an infinite number of svarūpa sambandhas, the self-hood of no two things being identical. In other words there is an infinite number of substances in this universe possessing qualities ; if every substance, possessing attributes, is an instance of self-relation, then we have to assume an infinite number of self-relations, again on this hypothesis a substance having different attributes will have different kinds of self-relations, which is absurd.

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[25] Babu R. N. Ghosh in his "Nayya-Nyaya," which is a translation in Bengali, of Mathurānātha's Vyāpti-pañcaka-Rahasya, gives us a list of the important relations of the Navya-Nyāya.

[26] On Verse, 11.

Hence, the only alternative is the relation of inherence taking place between the substance and the attribute. The principle of simplicity also recommends this. If we can explain the relation by one inherence, it is useless to assume an infinite number of self-relations.

Thus according to Viśvanātha inherence is one and permanent. Annam Bhatta also holds the same view (Samavāyastvekā Eva,—Tarka samgraha, 8).

It may be mentioned in this cennection that the prabhākara view of inherence is different from the Nyāya-Vaiśesika conception of it. Inhcrence, according to the prabhākara mīmāmsakas, is impermanent and many. Brāhman-hood (Brāhmanatva), for example, inheres in a Brāhmana. Before a Brāhmana comes into existence, inherence of Brāhman hood is absent in him and after his death this inherence of Brāhman-hood disappears. Hence inherence is impermanent and many.

(3) Self-relation (Svarūpa Sambandha) or Viśesanātā (Adjectivity) —It is a relation between a virtue or essence, which is other than a generic attribute, and its locus, between the cause and cause-hood and between substratum-hood and the substratum. Negation again abides in self-relation (svarūpa-sambandha) in its substratum. This relation between negation and its support is also called attributiveness pertaining to negation (abhāviya-viséṣaṇatā). The relation between an essence, which is other than a generic essence, and its locus, is, on the contrary, a type of self-relation which is called attributiveness pertaining to affirmation (bhāviyaviśeṣaṇatā). A generic attribute exists in its substratum in the relation of inherence and, therefore, cannot stand to it in the self-relation (svarūpa-sambandha). But inherence bears svarūpa-sambandha to its substratum.

(4) Identity (tādātmya)—The relation of a thing to itself is identity. i. e., everything is identical with itself.

(5) Time-relation (kālika-sambandha)—The relation that an entity, whether eternal or transitory, bears to time is called time-relation. Everything in this world has time-relation to everything else, because things are either coexistent or successive. The

Siddhānta-Muktāvalī discusses briefly the nature of time—a discussion which throws a flood of light on the nature of time-relation.[28] In the first place, time is the support of the moving world and the auxiliary cause of the things which are produced. But what is the proof of this ? It can be proved by a simple case of perception. Take the cognition "Now, i. e., at the present moment the jar is there". This cognition has a reference to the position and (apparent) movement of the sun, because the exact hour implied by the present moment is determined by the position of the sun on the horizon, i. e., any particular point of time is certainly sun-time. Hence in the cognition, "Now the jar is there," there is relation between the jar and the (apparent) motion of the sun. This relation is not conjunction (as the jar cannot be conjoined with the movement of the sun, movement being not a substance) ; nor can this relation be inherence or identity. Hence, it must be time, In time both the movement of the sun and the jar subsist and from this it follows that time is the support of the whole universe. Thus time is the sustainer of the ever-moving world. It is one continuous whole and not the aggregate of succeeding moments. Past, present and future do not effect time, but time is converted into these by its limiting adjuncts (upādhi). The Tarka-sangraha expresses in two short sentences the nature of time and time-relation. The one eternal all-pervading time is converted into past, present or future for practical purposes. Time, in fact, is the substratum of all things, and it is the instrumental cause of all activity.[29] It is a substance having the five qualities of number, measure, disjunction, conjunction and division.[30]

(6) Space relation (dikkṛta-viśeṣaṇatā)—The remarks applied to time apply mutatis mutandis to space also. Space is one eternal all-pervading substance in which the distinctions of east, west, north, south etc., are due to its different limiting adjuncts. Space is the cause of distance, nearness etc. Like time it is the general condition of every-

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[28] Siddhānta-Muktāvalī on verse, 45.

[29] Tarka-Saṁgraha and Tarka-dīpikā, p. 16.

[30] Vide, Tarkāmṛta of Jagadīśa.

thing that is produced. Everything, in fact, must exist in some spatial relation. Like time also space has the qualities of number, measure, disjunction, conjunction and division.

(7) Objectifying (viṣayatā)—The relation that knowledge, desire, aversion and effort bear to things is called objectifying.

(8) The relation of being objectified (viṣayitā)—The relation that objects bear to knowledge, desire, aversion and effort is called the relation of being objectified.

(9) Cause-hood (kāraṇatā)—It is the relation of the effect to the cause.

(10) Effect-hood (kāryatā)—It is the relation of the cause to the effect.

(11) Being the locus of the located (ādheyatā)—It is the relation of the locus to the located.

(12) Location-hood (ādhāratā)—It is the relation of the located to the locus.

(13) Collecrive extensity (paryāpti)—This relation has application in the case of number. When we say, for example, "five pots," a number with a collective extensity is given, The number extends up to five which again is a collective integer. Hence the relation of the number five to pot may be called collective extensity.

(14) Ownership (svāmitva)—The owned bears this relation to the owner.

(15) Ownedship (svatva)—The owner bears this relation to the owned.

(16) The substratum-hood of negation (abhāvavatva)—It is the relation of a thing ro the substratum in which it does not exist. Smoke, for example, does not exist in water. Smoke, therefore, stands to water in the relation of substratum-hood of negation.

(17) Conjoined-inherance (samyukta-samavāya).

(18) Conjoined-inherent-inherence (samyukta-samaveta-samavāya).

(19) Inherent-inherence (samaveta-samavāya).

(20) Partial extension (avyāpyatva)—Smoke does not exist in a red hot iron-ball. Hence, the relation of smoke to fire is an instance of partial-extension.

(21) Non-existence in-the-substratum-of-the-non-existence-of-itself,

i.e. the object related (svābhāvatavṛttitva)—Fire is negated in water in which smoke does not exist. Hence, the relation of fire to smoke may be called non-existence-in-the-substratum-of-the-non-existence-of-itself.

(22) Co-existence (svasāmānādhikaraṇya)—Things existing in the same locus bear this relation to each other.

(23) Negatum-hood (pratiyogitā)—It is the relation between negation and the thing negated and vice versa. The relation between a relation and the relatum is also called pratiyogitā, but the pratiyogī, in this connection, means that which rests on a substratum.

(24) Substratum-hood (anuyogitā)—A negation exists in-this relation in its substratum and conversely.

(25) Determinant-hood (avacchedakatā)—Objects have-this relation ro their determinants.

The Navya-Nyāya is realistic like the Old School of Nyāya and admits the knowability of all things. It accepts the Vaiśeṣika classification of the ultimate objects or reals (substance, attribute, action, inherence, generic attribute, or universal, ultimate differential and negation) and admits the four sources of knowledge recognised by the Old School. But though it thus is a combination of the Old School of Nyāya and the Vaiśeṣika, it differs in many places from the authoritative writers on them. And the difference between them and the Navya-Nyāya, so far as the nature of Vyāpti is concerned, will be revealed as we proceed with our treatise.

CHAPTER I

VYĀPTI-PAÑCAKA (*Five Provisional Definitions of Vyāpti*).

Gangeśa defines inferential knowledge as arising from the knowledge of the character of the Pakṣa (the subject of inference) as specified by Vyāpti or the objective invariable relation between the probans (hetu) and the probandum (sādhya) i.e., invariable concomitance.[1] This definition clearly shows that the cause or the determining condition of an inferential conclusion is not the hetu* (probans) but the knowledge of-invariable concomitance (vyāpti). Hence in the beginning of his discussion on Vyāpti (invariable concomitance) he puts the question: What is Vyāpti or invariable concomitance the knowledge of which is the determining condition of inferential knowledge?

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1 Tattvacintāmaṇi Part II p. 2 (Calcutta edition).
(Vyāpti-Viśiṣṭa-Pakṣadharmatājñānajanyaṁ jñānamanumitiḥ).

* Three terms are of special importance in the Navya-Nyāya discussions on inference. These are Sādhya, Hetu or Linga and Pakṣa. The proper English equivalent of sādhya should be the object to be inferred or the probandum or the inferent, that of hetu or linga, the reason, or mark or ground or the probans and that of Pakṣa, the subject of inference. We have not used the popular expressions, the major term, the middle term and the minor term for these respectively, as they do not convey the proper sense of sādhya, hetu and Pakṣa respectively. As a matter of fact, Nyāya being objectivistic, the purely formal expressions like the major term, middle term and minor term may be avoided in it.

Vyāpti means an objective invariable relation between the hetu and the sādhya the knowledge of which is essential to-inference. The hetu (the probans) should be an invariable-concomitant of the sādhya i.e., should be pervaded by the sādhya (the inferent), if a valid inference is to be made. The terms avyāpti and ativyāpti mean a too-narrow generalisation and a too-wide generalisation respectively.

The different kinds of vyāpti recognised in the Neo-Nyāya are the following:—

(1) Sama-vyāpti (the Uproposition)—All knowable things are nameable, Here the hetu invariably co-exists with the sādhya and vice-versa.

But in considering the knowledge of Vyāpti (invariable concomitance) to be the cause of inferential knowledge, Gangeśa strikes a note of difference with the Old School. According to Vātsyāyana inference is a process of the explication of the meaning inherent in the subject or Pakṣa by means of the sign or Hetu that characterises the

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(2) Viṣama-vyāpti (the A proposition)—All smoky objects are fiery. Here the hetu invariably co-exists with the sādhya but not vice-versa. Smoke is absent in the electric bulb in which there is fire.

(3) Vyatireki-vyāpti—The non-existence of eating is the non-existence of stoutness. Here there is the invariable co-absence of the sādhya and the hetu. There is also Kevala-Vyatirekī-vyāpti, e. g., "The non-existence of difference from other things is the non-existence of smell" (see p. 5).

Inference, according to Nyāya, aims not merely at formal consistency, but also at material truth. Unless the conclusion arrived at is a materially true proposition, the inference is no valid inference according to Nyāya. This distinguishes the inference of the Indian Logician from the syllogism of Aristotle. In the inference for others, i.e., in an inference stated in the fully logical form (see the Introduction), five steps are required and all these five steps are materially true. And five steps are necessary instead of three, because the opponent is to be convinced of the material validity of the conclusion. This objectivistic attitude shows that there is no place for purely formal fallacies in the Nyāya inference. Consider the fallacy of Four Terms in Formal Logic. It is sometimes a purely formal fallacy. The syllogism, "India comprehends Bengal, Asia comprehends India; therefore Asia comprehends Bengal," is an instance of the fallacy of Four Terms and is a purely formal fallacy. But the conclusion here is materially true. Hence this fallacy cannot have any place in the Nyāya system.

There are also other distinctions between the Arisrotelian Formal Logic and the Nyāya. In the Old School of Nyāya, the ground of inference is the apprehension of the presence of the hetu, which is invariably related to the sādhya, as a property of the Pakṣa. In the New School the knowledge of Vyāpti is the instrumental cause of inference. But in Formal Logic the middle term is the instrument of inference and need not be cognised as existing in the minor term. The formalistic attitude requires no necessary objectively valid conclusion.

In the next place, the Nyāya admits an extraordinary perception of the entire denotation as the connotation (sāmānya-lakṣaṇā). But the question of this knowledge of the entire denotation does not arise in the formalistic syllogism, Aristotle of course admits that at least one premise in a-syllogism must

Pakṣa.[2] This definition shows that the knowledge of Vyāpti is not at least the immediate cause of the inferential conclusion. And this point is clarified by Uddyotakara when he says that the instruments of inferential knowledge are the perception of the sign, the recollection of Vyāpti and the cognition of the sign as existing in the subject of inference (Linga-parāmarśa) of which the last one viz. linga-parāmarśa is the immediate cause of inferential knowledge.[3] Linga-parāmarśa implies the cognition of the presence of the Hetu (the probans) in the subject of inference together with the memory of its invariable concomitance with the sādhya (the inferent). Gangeśa also uses the term linga-parāmarśa for the instrument of inferential knowledge,[4] but he means by it, as Mathurānātha points out, the knowledge of Vyāpti[5] and not the sign which is being cognised in the subject of inference. The Siddhānta-Muktāvalī also raises the question of the instrument of inferential knowledge and points out that according to the Old School the sign or probans which is being perceived as present in the Pakṣa and which is concomitant with the sādhya is the cause of inference.[6] But this view of the Old School is repudiated by Viśvanātha. Mathurānātha also refers to this view of the Old School and refutes it by the proposition that, if cognition of the presence of the linga (probans) in the Pakṣa (the subject of inference) be the effective cause of the inferential conclusion, then there cannot be any inferential knowledge from the non-present, i.e., past

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be universal. But this universal proposition is not insisted on as being a materially true proposition.

[2] Vātsyāyana's Bhāṣya on the 3rd aphorism of Goṭama (Mitena lingena lingino'rthasya paścānmānamanumānam).

[3] Uddyotakara: Nyāya Vārttika—5th Sutra. On the instrument of inferential knowledge according to the Old School, Vide,-Nyāya-Darśana by Mm P.B. Tarkavagisa, Vol. I p. 135-137.

[4] Tattva-cintāmaṇi, Part II p. 2, (Calcutta. This edition contains the commentary of Mathurānātha).

[5] Linga-parāmarśa, Vyāpti-jñānam; Ibid, 19. Vide also the Tattvacintāmaṇi in which Gangeśa says: tacca (the kāraṇa or the determining condition of an inference) linga-parāmarṣa na tu parāmṛśya-mānam lingamiti.

[6] On verse 67.

or future marks or signs.[7] Viśvanātha also refutes the view of the Old School following the same argument.

As matter of fact the apprehension of the existence of the concomitant in the Pakṣa (the subject of inference) is called the vyāpāra (operative process) and the knowledge of Vyāpti or invariable concomitance the instrument of inference, by the New School. Just as in the act of of cutting a tree the axe is the instrument and the conjunction of the axe with the tree is the vyāpāra (the intervening operative process that culminates in the final effect of the fall of the tree) so in an inference the knowledge of vyāpti is the instrument and the knowledge of the Vyāpya (the concomitant) as existing in the subject is the vyāpāra. The instrument with the vyāpāra brings about the inferential knowledge.

Thus the instrument of the inferential knowledge, according to the Navya-Nyāya (New School), is the knowledge of Vyāpti. Now what is this Vyāpti or objective invariable relation between the hetu (probans) and the sādhya (Probandum)?

A thinker preceding Gaṅgeśa considers that Vyāpti is the negation of inconstancy (avyabhicaritattvam),[8] which can be determined by five definitions.[9] But these definitions are not considered sufficient, by Gangeśa, to explain the nature of Vyāpti, for all of them, it is alleged, fail in the case of a Kevalānvayī inference (an inference whose sādhya is universally present i.e., an inference based on empirical evidence of co-presence only). Let us discuss the nature and meaning of these five definitions (for a symbolical representation of these five definitions, see chapter IX).

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[7] Parāmṛśyamāna-lingasyānumitikaraṇatve atītānagatalingādanumitirna syāditi bhāvah. Tattvacintāmaṇi, Part II, p. 19.

[8] Eaton in his "General Logic, "P. 59 remarks: "Where the subject or the terms are general, the proposition is general, e.g., 'Men quarrel,' 'Red is colour,' 'Beauty is different from truth,' 'All good things are rare." Again, he says: "The simplest definition of a general element in a proposition would be, any element that does not refer to a definite individual (person, event, object, etc)." From this standpoint "some men quarrel" is also a general proposition, Stebbing also thinks in like manner. He observes: "A general proposition, therefore, makes an assertion about all or about some of the members of a class" (A modern Introduction to Logic, P. 43). On the other hand, Mill thinks that an induction or universal proposition is the predication of something of-an entire class of things. Now the definition of vyāpti as the negation of inconstancy implies that vyāpti is a state in which in all cases the Hetu is pervaded by the sādhya. From this standpoint this definition is akin to Mill's conception of Induction rather than to the conception of general proposition of Eaton or Stebbing.

The first definition of Vyāpti is the non-existence in the Hetu of objects having a substratum in which the sādhya is absent (sādhyābhāvavatavṛttitvam).[10] Let S stand for Sādhya and H for Hetu. Then the entire not-S, which is the substratum of the non-existence of S, must be negated in H. Really whatever is not-S is comprised within the denotation of not-S. The rule, therefore, reduces to No Not-S is H where H and Not-S are taken denotatively. In other words, the proposition "No Not-S is H" is, in the words of Western formal Logic, the contraposition of the A proposition "All H is S." And if the contrapositive is true, the proposition to be contraposed is also true and vice-versa. To explain the definition further, things or the denotata denotated by the absence of the sādhya are the things that are absent or excluded from the things denoted by the Hetu.

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(9) In is not definitely known as to who was the author of these five definitions. It the Tattva-cintāmaṇi-mayūkha, the commentary of Jagadīśā on the Tattva-cintāmaṇi, it is said that the upholder of the view of the negation of inconstancy to be the essence of Vyāpti, is the commentator (Tīkā-kṛt) and this commentator is Vācaspati Miśra. But though Vācaspati Miśra thinks that the negation of inconstancy is the essence of Vyāpti he nowhere formulates the five definitions, Hence, the author of these definitions might be some follower of Vācaspati Miśra.

10 It may be noted here that the conception of vyāpti as the negation of inconstancy has similarity with Hobhouse's conception of a general proposition Hobhouse says ; "And hence any uniformly observed relation A-B must be generalised, if no concomitant C exists, a change in which would be followed by a change in B", Theory of knowledge, P, 327. Again, he remarks: "The possibility of the disturbing concomitant is the "counter consideration"...which must be dismissed before a suggested generalisation can be affirmed," Ibid, P, 328.

Let us take an inference to understand this: "The hill has fire, as it has smoke." Here "smoke" is the Hetu and "fire" the sādhya. The substratum of the non-existence of the sādhya is the lake, for fire is absent in the lake. There are again things, e. g., fish, moss, etc., which are contained in the lake. These fish, moss, etc., do not exist in the Hetu 'smoke.' Hence smoke is the invariable concomitant of fire. In other words, smoke is the concomitant of fire, because the objects, which are present where fire is absent, are absent in smoke.

In this inference, the sādhya is wider than the Hetu. Therefore, the Universal proposition, all cases of smoke are cases of fire, is not simply convertible. The converse of this proposition is "some cases of fire are cases of smoke." Hence if we change the Hetu and say that the hill has smoke, as it has fire, then the inference turns to be fallacious and the definition, explained above, should not apply to this inference.[11] And this is exactly the case. The substratum of the non-existence of smoke is, for example, the red-hot iron-ball and the existence determined by the red-hot iron-ball is not negated in fire.

The definition of Vyāpti explained above speaks of the non-existence of the sādhya in a substratum the existence determined by which is negated in the Hetu. But there are inferences whose sādhya is universally present (Kevalānvayī). The inference, "All things are namable, as they are knowable," is a case in instance. Here the question of the substratum of the non-existence of the sādhya does not arise, because the sādhya is universally present. Hence the first definition of Vyāpti is incompetent to deal with such inference. Gangeśa, therefore, rejects it as incomplete. In other words, Gangeśa's meaning is that the definition "No Not—S is H" applies to the A proposition "All H is S." But it does not apply to a type of U proposition like "All H is all S" where the co-existence of H and S is without exception anywhere, i.e., there is not a single case of co-absence. Thus the contrapositive of an A proposition like "All men are mortal" is materially true. But the contrapositive of a U proposition of the Kevalānvayī type e.g., "All knowable things are namable" is not a materially true proposition there being no actual instance of co-absence any where.

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[11] This fallacious inference is called asaddhetuka as distinguished from a correct inference called saddhetuka. In the latter the Hetu is invariably accompanied by the sādhya. In the former some cases of the Hetu are accompanied by the sādhya. Some cases of fire are cases of smoke, as smoke does not exist in the red-hot iron-ball. A saddhetuka inference is materially true and a correct definition of Vyāpti should apply only to the saddhetuka inference and not to the asaddhetuka.

The commentator Raghunātha points out that the first definition is feared to be inapplicable to an inference whose Sādhya is of partial extensity (avyāpya-vṛtti) in the locus of the Hetu and the second definition is formulated in order that this defect may be removed.[12] Consider, for example, the inference. "It has the conjunction of monkey, as it is this tree (or as it has this-tree-hood)." In this inference, the sādhya 'monkey-conjunction' exists in a part of the tree, the substratum of the Hetu, for the attribute 'monkey-conjunction' can be located only in a portion of this tree. It is at the top of the tree, but not in its root. Now according to the first definition, the negation, in the Hetu of the location or existence of objects abiding in a substratum where the sādhya does not exist, is Vyāpti. This principle, to be true, in the inference in question, would mean that there is the negation, in the Hetu 'this-tree-hood,' of the location of objects which exist in a locus where the sādhya 'monkey-conjunction' is absent. But the sādhya 'monkey-conjunction' is absent in the root of this tree, and, therefore, in this tree. On the contrary, the Hetu 'this-tree-hood' is present in this tree. Hence the existence determined by the substratum of the non-existence of the sādhya is not negated in the Hetu and as such the definition does not apply to this inference.

To state the objection of Raghunātha in another form:] A-thing that exists as a qualification of a spatially extended thing may be said to exist in the thing and also not in the thing in so far as it exists in one part of the thing and is absent in other parts. The sādhya

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[12] Vyāpti-pañchaka-dīdhiti.

'monkey-conjunction' may be said to be present in the tree and also absent in the tree in as much as it is present in some part of the tree and absent in others. Hence the first lakṣaṇa or definition of Vyāpti does not apply to instances like this, i.e., to spatial wholes which are wholes of divisible parts, though it applies to the relations of universals and particulars excepting of course in the case of the Kevalānvayī inference in which instances of agreement in absence are wanting.

The commentator Mathurānātha, on the contrary, thinks that with the exception of the Kevalānvyī inference (an inference whose Sādhya is universally present), the definition is almost a complete picture of invariable concomitance. Let us explain the main and important portions of the comments on the first definition.[13]

The first definition means, according to Mathurānātha, that existence determined by the substratum of the non-existence of the sādhya is to be negated in the Hetu. Now this negation of existence in the Hetu should be the negation of a generic existence i.e., the negation of all the objects existing in the locus in which the sādhya is absent.* The negatum in this case must not include any instance of a thing which is not one or other of the objects absent where the sādhya is absent and also it must not exclude any instance of an object which is present where the sādhya is absent. Indeed the negatum of the negation of the genetic existence determined by the locus of the non-existence of the sādhya should be exclusive of objects other than those that are present where the sādhya is absent (itara-vāraka) and must not be exclusive of any thing comprised within the objects that are present where the sādhya is absent (nyūna-vāraka).

The negation of the existence determined by the locus of the non-existence of the sādhya, therefore, is the negation of the generic existence determined by the locus of the negation of the sādhya If it is not the negation of such generic existence, then the definition applies to an asaddhetuka inference which is materially false. Let us take an asaddhetuka inference. "The hill has smoke, as it has fire." Here fire is the Hetu and smoke the sādhya. The sādhya 'smoke' is absent in water, cloth, red-hot iron-ball etc. But if the negation of the existence of these things in the Hetu, fire, has not a generic negatum, one may concentrate on a particular locus, say water, and show the absence of the existence of water in fire. In that case the definition characterises an asaddhetuka inference which is logically fallacious. It commits the fallacy of too-wide-generalisation characterising what it should not characterise.

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[13] Vide Vyāpti-pañcaka-Rahasya.

* Sādhyābhāvādhikaraṇavṛttyabhāvaśca tādṛśca vṛttitva-sāmānyābhāvo Māthurī, Tattvacintāmaṇi, Calcutta, Part II, P30

On the contrary, if there is the negation of the whole class of objects having the non-existence of the sādhya, the definition does not fit an asaddhetuka (fallacious) inference. Let us take the fallacious inference, "it has smoke, as it has fire" in which smoke is the sādhya and fire the Hetu. The definition to be applicable to it, the location of all the objects belonging to the locus where smoke is absent, should be negated in fire. But in the red-hot iron-ball, smoke is absent, but not fire. Therefore, the definition does not apply to an asaddhetuka (fallacious) inference and thus does not transgress its logical limit and hence is not involved in the fallacy of two-wide-generalisation.

But though it does not apply to an asaddhetuka (fallacious) inference, it can well characterise a saddhetuka (correct) inference. Consider, for example, the induction or universal proposition, all cases of smoke are cases of fire, in which smoke is the Hetu and fire the sādhya. Here the negation, in smoke, of the existence of objects existing in the substratum of the non-existence of fire, being the negation of such generic existence, no object, in whose substratum fire is absent, can be located in smoke. Hence the definition quite fits such an inference.

But the definition will not apply to a saddhetuka inference like the hill is fiery, because of smoke, if there is not the negation of *all* the objects existing in the substratum of the negation of the sādhya. For in that case there is the negation, in the Hetu, of the location of some objects having a locus where the sādhya is negated. And as two subcontraries are not necessarily opposed, it follows that sometimes the existence pertaining to the substratum of thnon-e existence of the sādhya is negated in the Hetu, and sometimes not. And the result is avyāpti (a too-narrow generalisation).

Again the non-generality of the existence (which is negated in the Hetu) pertaining to the locus of the non-existence of the sādhya may also mean that in some cases there is the negation of the negative of the sādhya in the Hetu and in some cases there is the negation of the non-negative of the sādhya in the Hetu, i. e., the objects, which are copresent or have the same locus as the sādhya, may not be located in the Hetu. In that case the Hetu does not invariably accompany the sādhya.

The above discussions clearly show that the negation in the Hetu of the existence, pertaining to the locus of the non-existence of the sādhya, is the negation of a generic negatum. And for this there is no ativyāpti (a too wide application of the definition as so interpreted) in the fallacious inference, "it has smoke, as it has fire." For though in the watery lake, which is a case of the absence of the sādhya, smoke, there is also the absence of the Hetu, fire, yet the watery lake is the absence of the sādhya generically regarded, for in the case of the electric bulb the sadhya 'smoke' is absent but not the Hetu 'fire'. Similarly, there is not ativyāpti, though there is the negation of the duality of the substrata of the negations of smoke and water in fite. But this (generic) existence determined by the locus of the non-existence of the sādhya should again be taken in the relation which is the determinant of the Hetu (Hetutāvachhedaka-sambandhena vivakṣaṇiā).* In the enthymematic inference, ,'The hill is fiery, as it has smoke,"[14] the determinant relation of the Hetu 'smoke' is conjunction (because smoke is in conjunction with the hill). Hence the existence or location pertaining to the locus of the non-existence of the sādhya should be determined by the relation of conjunction. If we take the location of objects in the substratum in which fire is absent, in some other relation, say inherence, then the first definition cannot properly determine Vyāpti. For the substrate of the non-existence of the sādhya fire may be lakes, pots, cloths, etc., and also a part of smoke (dhūmāvayava), as fire dose not bear the relation of conjunction to that part.* Now if we take the location, pertaining to the locus of the non-existence of the sādhya 'fire' in the relation of inherence, we find that in the part of the Hetu 'smoke', which is the locus of the non-existence of fire, smoke does exist in the relation of inherence (for the whole inheres in the part). But according to the first definition, the non-existence, in the Hetu, of objects having a locus where the sādhya is absent, constitutes Vyāpti, Hence the definition fails, if the location, pertaining to the locus of the non-existence of the sādhya, is taken in the relation of inherence. But the case is otherwise, if we take this location in the relation of conjunction. Smoke does not exist in the relation of conjunction in the parts of smoke ; for conjunction is an external and impermanent relation, whereas the relation of the whole to the part is organic and permanent. Hence there is the negation of smoke, in parts, in the relation of conjunction and the parts of smoke again are the locus of the non-existence of fire in the relation of conjunction. Hence the definition succeeds in this case.

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* The relation determining the Hetu means the relation in which the Hetu exists in the Pakṣa (the subject of inference). Similarly, the relation determining the sādhya means the relation in which the sādhya stands to the Pakṣa. In the inference, "The hill fire, as it has smoke", both the Hetu (smoke) and the sādhya (fire) stand in the relation of conjunction to the Pakṣa (the hill). Hence here the relation determining them is conjunction.

[14] The commentators of Nyāya use enthymemes as their examples, though an inferential reasoning (for others) consists of five steps.

We have explained the failure of the first definition in the inference, "The hill is fiery, because of smoke", when the location, pertaining to the locus of the non-existence of the sādhya, is taken in the relation of inherence. We shall also explain that the definition cannot determine Vyāpti, if the location pertaining to the locus of the non-existence of the sādhya 'fire' is taken in any kind of time-relation. Every generated event exists in some time-relation. Smoke, the Hetu, does bear some time-relation to the locus of the non-existance of the sādhya fire, say, watery lake. Smoke is either simultaneous with the lake, or precedes the lake or succeeds the lake. Hence there is not the negation of the location pertaining to the locus of the non-existence of the sādhya in the Hetu, if the location is considered in any kind of time-relation. Therefore the definition falls short of adequately representing Vyāpti in such cases.

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* The relation of fire to smoke is conjunction and smoke inheres in its parts. Hence the relation of fire to a part of smoke is conjoined inherence and not conjunction.

We have seen that there are cases of inference in which the relation determining the Hetu may be conjunction and the location pertaining to the locus of the non-existence of the sādhya should stand in the same relation to its substratum. But as there may be inferences in which the Hetu may bear some other relation to the Pakṣa (the subject of inference), let us consider an inference where the Hetu is determined by the relation of that kind of inherence which has for its anuyogī or base the Pakṣa (the subject of inference): "This is a substance, as it has existence."[15] Here substance-hood is the Sādhya,[16] existence the Hetu, and "this" the Pakṣa. The locus of the non-existence of the sādhya 'substance-hood' is quality, action, etc., which are not substances. Now the Hetu 'existence' inheres in the Pakṣa in a manner in which existence inheres in substance. The relation of inherence, in this case, is determined by the essence of substance, so that we get here inherence plus such determination and not inherence pure and simple. Thus inherence in this instance is dravyānuyogī (having substance as its support). This relation of inherence based-in-substance is the determinant of the Hetu. Now the location pertaining to quality, action, etc., which are the locus of the non-existence of the Sādhya 'substance-hood,' is certainly negated in the Hetu in the relation of inherence-based-in substance.

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[15] It may be noted that the inference, "it is a substance, as it has existence", is fallacious, if the Hetu 'existence' does not mean existence pertaining to substance. For all cases of existence are not all cases of substance. as existence inheres in quality and action as well. But all cases of existence pertaining to substance are found in substance alone. It may be noted again that according to the Navya-Nyāya, existence (sattvā) inheres in substance, quality and action and existence abiding in these three is a superior universal. It may be further noted that Nyāya speaks of Parā and Aparā jāti in the sense of higher & lower universals ; but when it uses such language all that it means is that higher universal is higher in the sense that its denotation is inclusive of the denotation of the lower universal. The denotation of the lower universal is included in that of the higher universal, because the denotation of the lower universal is not co-extensive with that of the higher. Nyāya never means by higher & lower universals that the higher subsumes the lower under it, universals of universals being repudiated by Nyāya as entailing infinite regress.

[16] There is a typical formula current among the Bengali scholars of Nyāya to determine the sādhya : Bān mān varjiyā, sādhya ān garjiyā ; yadi nā thāke bān mān, tva carāyiā, sādhya ān (Bring the sādhya leaving aside vatup and matup and when there are no vatup and matup, add tva to get the

One important point is to be borne in mind in this connection. The location pertaining to the locus of the non-existence of the sādhya has the same relation to its locus as determines the Hetu. But this relation determining the Hetu has again its collective extensity (paryāpti) which should neither be exceeded, nor be narrowed. In the inference, "This is a substance, as it has existence," we have found that the relation, determining the Hetu, is inherence-based-in-substance. If we narrow this relation by omitting the adjunct "based-in-substance" and consider[17] inherence itself to be the determinant relation of the Hetu 'existence,' then the definition turns to be futile. For existence inheres in quality and action which are the locus of the non-existence of the sādhya 'substance-hood' and there will be found, in the Hetu, the location or existence as determined by the relation of inherence, pertaining to quality and action. But the negation of such location in the Hetu constitutes invariable

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sādhya). This means that the sādhya should be an abstract noun like substance-hood when substance represents the sādhya and when the sāddya is represented by an adjective like fiery, it should be fire.

[17] The omission of "based-in-substance" narrows the relation in the following manner: In the relation of inherence-based-in-substance, the facts of being based in substance and inherence determine the relatedness of the relata. Here the determinants of the relatedness are two in number. But if we omit the fact of being based in substance, then the number is narrowed down to one,

concomitance, according to the first definition. Hence the definition becomes inadequate, if the relation is narrowed.

The definition shares the same face, if the relation determining the Hetu is widened. Consider again the inference,—"It is a substance, as it has existence." Here the relation determining the Hetu 'existence' is inherence-based-in-substance; the locus of the non-existence of the sādhya 'substance-hood' is, for example, action where substance-hood does not inhere. Now if we consider the location pertaining to action either in time-relation or in the relation determining the Hetu[18] (which is inherence-based-in-substance), then there is not the negation of the location of the non-substratum of the sādhya in the Hetu. For the location determined by the alternative relation will exist in the Hetu. Nothing prevents, for example, the Hetu 'existence' to bear a time-relation to action which is the locus of the non-existence of the sādhya. Hence the demand of the definition according to which location concerned with the substratum of the non-existence of the sādhya should be negated in the Hetu, is not fulfilled.

The relation determining the Hetu and the relation determining the location pertaining to the locus of rhe non-existence of the sādhya are thus the same having the same collective extensity. This collective extensity is a relation whose substratum is determined by number and in determining the exact number implied by this relation, the essence of the things to which the number is applied, should be taken into consideration. When we determine the number of pots, for example, we should say that the essence pot or pot-hood extends upto that particular number, say two. For the collective number two may exist on the pot and the cloth, when the cloth is placed on the pot and in that case the exact-collective extensity with regard to pot cannot be determined. But the essence pot or pot-hood is a gereric attribute and as such eternally inheres only in pots and can never exist in the cloth; and similarly the essence-cloth can never exist in the pot. Hence the difficulty of determining the exact-collective extensity of pot disappears, if the collective-extensity rests on the essence-pot.

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[18] The alternatives time-relation and inherence-based-in-substance widen the relation determining the Hetu in the following manner: Inherence-based-in-substance is the determinant of the Hetu. But to this are added the essence-time-relation (Kālikatva) and essence-alternative (anyataratva). Hence the over extension.

Remembering this rule of collective extensity, we can find out the exact collective extensity of the relation determining the Hetu in an inference. Let us consider the inference, "The hill has fire, as it has smoke." Here the relation determining the Hetu is conjunction or connection. The essence of connection is connectedness. The extensity of the relation of connectedness is unity or one-ness pertaining to connectedness. Let us again consider the inference, "It is a substance, as it has existence." Here the relation determining the Hetu is inherence pertaining to substance. The collective extensity of this relation is duality or two-ness, viz, essence of inherence plus essence-of-relation-to-substance. Hence in these two inferences the extensity of the relation, through which the location pertaining to the locus of the non-existence of the sādhya, should be taken, is one-ness or unity and two-ness or duality respectively.

The relation determining the Hetu is thus the determinant of the relation through which things exist in the substratum of the non-existence of the sādhya. This is a safeguard the transgression of which leads, according to some, to the fallacy of a too-narrow definition and according to others, to that of an absolutely absurd or impossible (asambhava) definition. When a definition applies to some cases and not to all, it is too-narrow and when it applies to no case, it is absolutely absurd. The definition, the non-existence, in the Hetu of objects abiding in a substratum in which the sādhya is negated, is too-narrow, when the relation determining the Hetu does not determine the existence of objects in the locus of the non-existence of the sādhya and when related-ness is supposed to belong only to those relations which bring the consciousness of a support and supported (Vṛtti-niyāmaka-sambandha). In the inference, "They have reciprocal negation with ether as they have jar-hood," the negation of the sādhya is ether whose substratum again is ether itself. The relation determining the Hetu "jar-hood" is inherence-pertaining-to-jar, because jar-hood inheres in jars which are implied by the Pakṣa "they". But in ether nothing can exist in the relation of inherence-pertaining-to-jars, as this kind of inherence is found only in jars and no where else. Yet there is the absence of the Hetu 'jarhood' in ether, jar-hood abiding only in jars. Hence the definition applies to this inference at least and as such is not absolutely absurd or impossible, though too-narrow, as it does not apply to other cases.

But the definition turns to be absolutely absurd or impossible if related-ness is supposed to belong also to the relation which does not bring the consciousness of a support and supported (vṛttyaniyāmaka-sambandha). A, for example, does not exist in B in the relation of inherence. Here non-existence in inherence may be taken as a genuine relation, And, so taken, the definition of invariable concomitance, under discussion, results in absolute absurdity, being inapplicable to a single instance (if the relation determining the Hetu does not determine the location pertaining to the locus of the negation of the sādhya). To take the inference, "They have reciprocal negation with ether, as they have jar-hood", the Hetu 'jar-hood' can exist, in a vṛttyaniyāmaka sambandha, in ether which is the substratum of the negation of the sādhya, as jar-hood exists only in jars in the relation of inherence and does never exist in ether in that relation.* Hence the definition, according to which the non-existence of the non-substratum of the sādhya in the Hetu determines invariable concomitance, does not apply to this case and as such turns to be absolutely absurd or impossible.

Thus things exist in the locus of the non-existence of the sādhya through the relation determining the Hetu. But what is the exact significance of the non-existence of the sādhya in the definition that the negation of location pertaining to the locus of the non-existence of the sādhya constitutes invariable concomitance ? The non-existence of the sādhya is to be understood as a negation whose negatum is determined both by the relation determining the sādhya and by the essence determining the same (Sādhyābhāvaśca sādhyatāvacchedakasambandhāvachhinna sādhyatāvachhedakā-vachhinna-pratiyogitāko vodhyah). In the inference, "The hill is fiery, as it has smoke", the sādhya 'fire' has conjunction with the hill. Hence the relation determining the sādhya is conjunction. Similarly the essence determining the sādhya is fire-hood and not smoke-productivity or anything else, for in the inference in question, fire is taken as fire. Now the negatum of the negation of the sādhya is the sādhya itself and it is fire on this occasion. Hence the negation of the sādhya 'fire' is a negation, in the relation of conjunction, of fire as determined by fire-hood. Fire as fire has no conjunction with the lake ; objects existing in the lake are absent in the Hetu 'smoke'. Thus there is the negation, in the Hetu, of the existence of objects having a locus where the sādhya is absent and this is the demand of the definition.

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* Jar-hood, for example, bears the relation of svābhāvavatva (non-existence of the relatum characterising something) to ether and this relation is a Vṛttyaniyāmaka-sambandha.

But if the negation of the sādhya means only the negation of the sādhya as determined by its essence and not in the relation determining it, then the definition becomes too-narrow. In the above inference, if there is the negation of fire as fire, but not through the relation of conjunction in which fire exists on the hill, then fire as fire may be supposed to be negated through the relation of inherence. But fire does not inhere on the hill which therefore is the substratum of the non-existence of the sādhya 'fire' in the relation of inherence. Smoke, on the contrary, exists on the hill. Hence there is not the negation of location pertaining to the locus of the non-existence of the sādhya in the Hetu and as such the definition is narrowed.

The definition also is guilty of narrowness, if the negation of the sādhya, in the inference, "The hill has fire, because of smoke", implies only the negation of fire in the relation of conjunction and not the negation of fire as determined by fire-hood. For in that case a particular type of fire, say the fire of the kitchen, may be supposed to be negated in the relation of conjuuction and the substratum of such negation can be the hill where kitchen-fire does not exist. On the hill again smoke exists and thus the definition fails.

The definition labours under the same difficulty, if the negation of the sādhya, in the above inference, does not mean only the negation of fire in general, but the negation of fire and water both, For in that case the substratum of the negation of the sādhya would be the substratum of the negation of both fire and water. This substratum may be the hill, as fire and water together never exist on the hill (and as a matter of fact no where) and the hill again is the substratum of smoke.

The above discussions clearly show that the negation of the sādhya in the definition the non-existence, in the Hetu, of objects having a substratum which has the negation of the sādhya determines invariable concomitance should be a negation of the sādhya as such in the relation determining it, so that if the sādhya bears to the Pakṣa the relation of conjunction, or inherence or any other relation, the sādhya as such should be negated in the same relation. But the relation determining the sādhya and the relation in which it is negated. though same, may be unequal in respect of the number of relatedness, i. e., in respect of collective extensity. This collective extensity should be also the same in both cases, In the inference, "It has existence, as it has a universal or generic attribute",* the relation determining the sādhya is inherence, as existence inheres in its substratum. The sādhya as such (existence) should be negated also in the relation of inherence in the substratum of its negation. But if it is negated in the relation of inherence-pertaining-to-substance, then the extensity of the relation determining the sādhya is unity (only inherence) and the collective extensity of the relation in which the sādhya is negated is duality (inherence plus pertaining-to-substance). But this inequality invalidates the definition. For the substratum of the negation of the sādhya 'existence', in the relation of inherence-pertaining-to-substance, may be quality and action (as existence abides in the relation of inherence-pertaining-to-substance only in substance and no where else) and generic-attribute, the Hetu, inheres in quality and action. Thus there is not the negation of location pertaining to the locus of the non-existence of the sādhya in the Hetu and the definition thus turns to be futile.

Just as the extensity of the relatedness determining the sādhya and of that of the relation in which the sādhya is negated should be the same, so the extensity of the essence determining the sādhya and that of the essence determined by which it is negated, must be the same. For there are two cases where the inequality of the extensity of them leads to avyāpti. In the first case the determinant relation of the sādhya is negatum-hood (pratiyogitā) and in the second, the relation of being objectified (viṣayitā). The speciality of the relation of negatum-hood is that an essence in which a thing is negated is also the essence in which that thing exists in the relation of negatum-hood on the negation. When kitchen-fire is negated, then kitchen-fire is the negatum and, therefore, the relation of negatum-hood is with regard to kitchen-fire holding between kitchen-fire and its negation. Similarly when the orange is known as being sweet, the orange-sweetness is the object of knowledge and this orange-sweetness stands in the relation of Viṣayitā (the relation of being objectified) to knowledge. So in these two cases the substrata of the relations (and these are negation and knowledge respectively) can contain nothing else than the essence-kitchen-fire and essence-orange-sweetness. But in the case of any other relation, the object related can exist in its substratum as an essence other than that which determines the relation at a particular context. When fire, for example, exists, in the relation of conjunction, on the hill as fire, it may also exist on the hill as a substance or known object. Hence negatum-hood and Viṣayitā (the relation of being objectified) are unique kinds of relation.

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* In other words, "It has existence, as it is an itstance of a universal." The instances of the universal are substance, quality and action.

Now let us take two inferences in which the sādhya as such is negated through the relations of negatum-hood and Viṣayitā (the relation of being objectified) respectively, but in which the extensities of the essence determining the sādhya and the essence in which the sādhya is negated are not equal. "This has not kitchen-fire, because of the non-existence of kitchen-fire." Here kitchen-fire is the sādhya in the relation of negatum-hood. The essences determining the sādhya are kitchen-hood and fire-hood and thus the collective extensity of the essences determining the sādhya is duality or two-ness. But if the negation of the sādhya is taken to mean the negation of the essence-fire only, in the relation of negatum-hood, then the negation of the sādhya means the negation of essence-fire, as the negatum of the negation of essence-fire is essence-fire. The substratum of the non-existence of the sādhya 'fire' as determined by fire-hood may be the negation of kitchen-fire:. for through the relation of negatum-hood fire as such does not exist on the non-existence of kitchen-fire. In other words, when we say, the kitchen-fire does not exist, the negatum is the kitchen-fire and not fire. Hence the negation of kitchen-fire is a substratum of the non-existence of fire through the relation of negatum-hood. But the Hetu is the negation of kitchen-fire. Hence the definition does not apply to this case and, therefore, is too-narrow.

Now to take an inference in which the sādhya is determined by the relation of being objectified (Viṣayitā):. "This has kitchen-fire." as there is the knowledge or perception of kitchen-fire." Here kitchen-fire is the sādhya as determined by the relation of being objectified and the essences kitchen-hood and fire-hood, and, therefore, the collective extensity of the essences determining the sādhya is duality as before. Now if, like the previous inference, we consider the negation of the sādhya as determined only by fire-hood (leaving out kitchen-hood) through the relation of being objectified, then the substratum of the non-existence of the sādhya may be the perception of kitchen-fire, as fire exists in or the relation of being objectified, in the knowledge perception of fire and not in the perception of kitchen-fire. The Hetu, on the contrary, is the perception of kitchen-fire. Hence the definition is inapplicable to this case and as such is incomplete.

Thus the extensity of the relation determining the sādhya and that of the relation in which it is negated should be the same. Similarly, the extensity of the essence determining the sādhya should be equal to that of the essence in which it is negated. And the relation and essence determining the sādhya should be the same as those in which the sādhya is negated. But the question may be asked:. What is the exact implication of the substratum of the non-existence of the sādhya in the definition, "The negation of the location pertaining to the substratum of the non-existence of the sādhya, is invariable concomitance?" This substratum of the non-existence of she sādhya is to be understood in the relation of adjectivity or attributiveness pertaining to negation (Abhāvīyaviśeṣaṇatā-viśeṣeṇa vodhyam) i. e., in self-relation (svarūpa-sambandha). If it is taken in any other relation, say the relation of being objectified or partial extensity, then the definition would be too-narrow. Let us take two inferences in which the substratum of the non-existence of the sādhya exists through the relations of being objectified and partial extensity. "It has quality, as it has knowledge." In this inference quality, in the relation of inherence, is the sādhya, for quality inheres in substance. The Hetu again is knowledge in the relation of inherence, because knowledge is a quality which inheres in its substratum. Hence the relation determining both the sādhya and the Hetu is inherence. The substratum of the negation of the sādhya, quality, in the relation of being objectified, is knowledge, for the non-existence of quality stands in the relation of being objectified to the knowledge of the non-existence of quality. The existent in this substratum (knowledge) inheres in it, as the relation determining the Hetu is inherence. In knowledge again the knowledge-quality inheres. Hence existence pertaining to the substratum of the non-existence of the sādhya is determined by knowledge-quality. But the Hetu is knowledge itself in which knowledge-quality inheres. Thus we do not get the negation of existence pertaining to the substratum of the non-existence of the-sādhya and as a result the definition becomes too-narrow.

If we take the substratum of the negation of the sādhya in the above inference, in the relation of partial extensity, then this substratum is knowledge. For the relation of partial extensity means the non-existence of something in some substratum of another thing (as the non-existence of smoke in some substratum of fire, say the red-hot iron ball) and some substratum of knowledge has not the non-existence of the sādhya 'quality'. In other words, knowledge is a quality and there is not any case of knowledge in which quality is absent. Hence if the negation of quality is to find a substratum in which it partly does not exist, such a substratum is knowledge, for in every case of knowledge quality exists. Thus knowledge is the substratum of the non-existence of the sādhya 'quality' in the relation of partial extensity. Hence like the previous case, the definition here is too-narrow.

The second inference for our purpose is, "It has existence, as it has a generic attribute or universal." Here the relation determining the sādhya is inherence, as existence inheres in its substratum. The relation determining the Hetu is the self-relation (svarūpa-sambandha), as the proposition, it has a universal, implies that the Pakṣa, it, is the substratum of the substratum-hood of the universal, and the relation between substratum-hood and substratum is self-relation. The relation determining the sādhya 'existence,' is on the contrary, inherence. The negation of the sādhya 'existence' is non-existence. The substratum of this non-existence, in the relation of being objectified, is knowledge, because everything, including non-existence, stands in the relation of being objectified to knowledge. Now existence or location pertaining to knowledge, through self-relation (svarūpa-sambandha) (the relation determining the Hetu), also is found in the substratum-hood of the universal, because the universal is known. But the Hetu is the substratum-hood of the-universal. Hence there is not the non-existence of the substratum of the non-existence of the sādhya in the Hetu and the result is the incompleteness of the definition.

Let us again take the same inference, "It has existence, as it has a universal," in which the substratum of the non-existence of the sādhya is determined, not by the relation of being objectified, but by the relation of partial extensity. Here the relations determining the sādhya and the Hetu are inherence and svarūpa respectively, as in the previous case. The Hetu again is the substratum-hood of the universal and the sādhya is existence. Now the substratum of the negation of the sādhya, in the relation of partial extensity, is knowledge. For the other name of the relation of partial-extensity is location determined by the substratum of the-negation of the negatum itself (svābhāvavatvṛttitva). In the inference, under discussion, the negatum is the object non-existence (the negative of the sādhya) and the negation of the negatum is, therefore, existence. The substrata of existence again are substance, quality and action to which knowledge stands in the relation of objectifying[19] (viṣayatā). Hence non-existence has knowledge as its substratum in the relation of location determined by the substratum of the negation of the negatum itself or the relation of partial extensity. Now location determined by knowledge, in the svarūpa sambandha (self-relation), can be found also in the substrarum-hood of the universal (the Hetu). Therefore the definition fails.

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[19] Existence inheres in substance, quality and action and not in other Padārthas (knowable ultimates or reals).

But if the substratum-hood of the non-existence of the sādhya is taken in svarūpa-sambandha (self-relation) then the definition succeeds. In the inference, "It has quality, as it has knowledge," the substratum of the negation of the sādhya 'quality', in svarūpa-sambandha, can be substance, action, universal, the ultimate differential and inherence but not quality, as the negation of quality does not exist in quality. Now location, determined by the knowable ultimates or ultimate objects excepting quality, in the relation determining the Hetu, which is inherence in this case, is negated in the Hetu 'knowledge', knowledge being a quality. This the definition escapes from the fault of narrowness.

Similarly, in the inference, "It has existence, as it has a universal", the substratum of non-existence (the negation of the sādhya),[20] in svarūpa-sambandha is the ultimate differential, inherence and negation, for existence does not inhere in them. Inherence again is the relation determining the sādhya. Thus ultimate differential, inherence and negation have non-existence-as-determined-by-the-relation-of-inherence, through svarūpa-sambandha. Now the Hetu is substratum-hood of the universal as determined by svarūpa-sambandha. Again location, concerned with the substrate, ultimate differential, inherence and negation, and as dertermined by svarūpa-sambandha, is negated in the Hetu, substratum-hood of the universal. For such location, in such a relation, is found only in the ultimate differential, inherence and negation. The substratum-hood of the universal again exists on substance, quality and action. Hence in the Hetu location pertaining to the substratum of the non-existence of the sādhya is negated and the definition is justified.

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[20] Existence abiding in substance, quality and action, is a superior universal. Vide, Bhāṣā-pariccheda, 8.

Thus the substratum-hood of the non-existence of the sādhya should be considered as svarūpena sambaddha (or related through itself). But an objection may be raised (from the stand point of the Old Shool that negation of negation is affirmation) that there are cases where the substratum of the non-existence of the sādhya is not determined by svarūpa-sambandha and yet a correct Vyāpti is available. Consider, for example, the inference, "It has the absolute negation of jar-hood, as it has cloth-hood." Here the sādhya is the absolute negation of jar-hood, The negation of the sādhya is the negation of the absolute negation of jar-hood, and by this combination of two negations, we get an affirmation, viz., jar-hood itself. To get the substratum-hood of the non-existence of the sādhya in svarūpa-sambandha, we must have jar-hood substrated in this relation. But jar-hood, being a generic attribute, bears the relation of inherence to its substratum and not svarūpa-sambandha. Hence the definition is inadequate for such an inference, if the relation determining the substratum of the non-existence of the sādhya is self-relation (svarūpà-sambandha).

Likewise the definition fails in the inferernce, "It has reciprocal non-existence with a jar, as it has cloth-hood." For the negation of the sādhya, "reciprocal non-existence with a jar", implies the affirmation, jar-hood. And as jar-hood does not exist, in svarūpa sambandha, in its substratum, the definition is inadequate like the previous case.

The answer of Mathurānātha to this objection of the Old School is that the latter's conception of the nature of double negation is unacceptable. For according to the Old School, the absolute negation of absolute negation is the negatum, i.e., non-existence of absolute non-existence is existence and, therefore, the absolute negation of the absolute negation of jar-hood posits jar-hood itself. Similarly, the absolute negation of reciprocal non-existence is the determinant of the negatum. But this view of the Old School is erroneous says Mathurānātha. The absolute negation of the absolute negation of a generic attribute is a separate negation or additional negation. The absolute negation of the absolute negation of jar-hood is jar-hood which is a negation as well as an affirmation. For the negation of the negation of jar-hood is but a negation ; but at the same time the jar, which we get by this double negation, is a positive entity. In the same manner the absolute negation of reciprocal non-existence is a separate negation as an affirmation.

Viewed in this light, the inference,[21] "It has the absolute negation of jar-hood, as it is a cloth", or the inference, "It has reciprocal negation with the jar, as it is a cloth", comes within the scope of the definition, even when the substratum of the non-existence of the sādhya is taken in self-relation (svarūpa sambandha). For the negation of the sādhya "absolute negation of jar-hood", or the negation of reciprocal negation with a jar, is a separate negation, i.e., is the negation of the negation of jar-hood and, in self relation, the substratum of the negation of the negation of jar-hood is the jar itself. Now location or existence, as determined by the jar, does not exist in the Hetu "cloth". Hence the definition is not frustrated.

But even if the view of the Old School with regard to double negation is accepted, the relation determining the substratum of the non-existence of the sādhya can be shown. The substratum of the negation of the sādhya is not determined by self-relation in all cases. But in different cases of inference the relation becomes different. In the inference "The hill has fire, as it has smoke", the relation determining the substratum of the negation of the sādhya is self-relation ; in the inferences", "It has absolute negation of jar-hood, as it has cloth-hood", and "It has reciprocal negation with a jar, as it is a cloth", such a relation is inherence, and so on.* Mathurānātha invents one single formula which covers all cases of this relation. It is a relation in which the negation, whose negatum is tho sādhya as a generic object and as determined by the relation determining it exists in its locus.** Let us explain this with the help of the inference, "The hill has fire, as it has smoke." Here the sādhya fire is determined by the relation of conjunction (as fire exists in the relation of conjunction on the hill) ; the sādhya as a generic object is fire. The substratum of the negation of fire is determined by self-relation, as the negation of a generic object exists in its substratum only in this relation. Such a substratum can be a lake in which there is the negation of fire as fire. Existence pertaining to the lake is; on the contrary, negated in smoke, the Hetu. Hence the definition is not narrow.

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[21] See positional negation in the Introduction. Vide also Māthurī: Jātyatyantābhāva-tad-bad-anyonyā-bhāvayoḥ atyantābhāvo na pratiyogi-pratiyogitāvacchedaka svarūpaḥ, kintu atiriktaḥ, Tattvacintāmaṇi, Part II, P. 31.

* Tādṛśa sambandhasya "Vahnimān dhūmāt" ityādi-bhāva-sādhyaka-sthale Viśeṣaṇatā-viśeṣa eva, "ghaṭatvābhāvabān paṭatvāt" ityādi-abhāva-sādhyaka-sthale tu samavāyādiḥ eva. Māthuri, Tattvacintāmaṇi, Part II P. 31

Similarly, according to the formula, the relation through which the negation of the sādhya exists in its substratum, is inherence, in the inferenee, "It has the absolute negation of jar, as it is a cloth." The reason for this is the following:. Here jar-hood being a generic attribute we get the sādhya as a generic object. The relation determining this sādhya is svarūpa (as the absolute negation of a generic attribute bears self-relation or svarūpa sambandha to its substratum). The negation of this sādhya, absolute negation of jar-hood, in self relation, posits jar-hood ; jar-hood exists in its substratum jars, in the relation of inherence ; existence pertaining to jars does not inhere in the cloth, the Hetu.

Thus the relation, determining the substratum of the non-existence of the sādhya, is a relation in which the non-existence of the sādhya, which is taken as a generic object and as determined by the relation determining it, exists in its substratum. But why should this relation be the determinant of the negation of the generic sādhya? The answer is that if the sādhya, in this case, is not taken

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** Sādhyatāvacchedaka-sambandhāvacchinna-pratiyogitāka-sādhya-bhāva-vṛtti-sādhyasāmānyiya-pratiyogitāvacchedaka-sambandhena sādhyabhāvādhikaraṇatvam vaktavyam. Ibid. We have not given its exact translation, but have explained the idea contained in it.

as a generic object, then there are inferences which will not come under the definition. Consider the inference, "It has the knowable, as it has knowledge," in which the relation determining the sādhya is inherence.* Here the sādhya knowable is to be negated in the relation of inherence. But if the knowable, as determined by the relation of inherence. is not negated in its substratum, as a generic object, then the substratum of such negation can be determined by time-relation, for a particular negation exists in its substratum both in time-relation and self relation. Now the substratum, in time-relation, of the negation of a particular knowable as determined by inherence, is time. But every knowledge, excepting God's is produced and the limiting adjunct of everything that is produced is time and, therefore, knowledge that is produced, or limited knowledge, may be called temporal or time determined. Hence the substratum, in time-relation, of the negation of a particular knowable, as determined by inherence, may be knowledge that is produced or limited knowledge. The Hetu is also knowledge, which therefore, has not the negation of existence pertaining to the substratum of the non-existence of the sādhya. Thus the definition is open to the objection of being too-narrow.

The definition, likewise, will be faulty, if in the same inference the relation determining the sādhya is the relation of being objectified (viṣayitā) but the sādhya is not negated as a generic object. For a particular knowable, as determined by the relation of viṣayitā may be negated in a locus in time-relation and the substratum, in time-relation, of the negation of a knowable is, like the previous case, knowledge that is produced. Hence the definition, as in the previous case, is faulty as being too-narrow. But as the non-existence of a generic object exists in its substratum only in self-relation, we shall get the negation of the sādhya as a generic object, if we take the substratum of this negation in this relation. And if the substratum of the negation of the sādhya is determined by this relation (i.e., self-relation or svarūpa sambandha), then the definition well applies even to the inference, "It has the knowable, as it has knowledge", in which the sādhya is determined by the relation of inherence or viṣayitā. The reason of the validity of the definition in this case is the following:—

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* Vide Māthurī, Tattvacintāmaṇi, Part II. p. 32.

The sādhya is the knowable in the relation of inherence. The negation of the sādhya as a generic object is the negation of the knowable, as determined by the relation of inherence. The substratum, in self-relation, of this negation, is the generic attribute, ultimate differential, inherence and negation (as the knowable as determined by the relation of inherence never exists in these. Inherence in fact, obtains between the jar and its halves, between the substance and quality, between the substance and action and between the generic attribute and substance, quality, action. The generic attribute inheres in these, but these do not inhere in the generic attribute). The location determined by these is negated in the Hetu 'knowledge', as knowledge, which is a quality, is a feature of the soul and not of these.

In the same way, if the relation determining the sādhya in the above inference is viṣayitā, then the sādhya is the knowable in the relation of viṣayitā. The negation of the generic sādhya is the negation of all knowable objects as determined by the relation of viṣayitā. The substratum, in self-relation, of such negation is everything excepting knowledge, desire, aversion and effort. For everything bears to knowledge etc., the relation of visyitā or being objectified, so the sādhya (all knowable objects) exists on knowledge etc., in the relation of viṣayitā, and hence the negation of the sādhya (all knowable objects) must exist in a substratum other than knowledge etc. Now in the Hetu knowledge existence pertaining to everything other than knowledge etc., is surely absent and thus the definition succeeds.

Thus taking double negation to be affirmation, the negation of the sādhya in the definition, the non-existence, in Hetu, of objects having a substratum in which the sādhya is negated, is a negation of the sādhya as a generic object. Now this sādhya, as a generic object, means affirmatively, the fact of being true of every case of sādhya (Yāvatsādhya-nirūpitattvam) and negatively, it is other than its non-determinant (svānirūpaka-sādhyaka-bhinnattvam). But what again is the exact meaning of "the fact of being true of every case of sādhya"? It means that the sādhya is to be determined by such a relation as relates the entire denotation of the sādhya and not a part of it and that the negation of the sādhya having its negatum (i.e., the sādhya) determined by this relation should exist in its substratum.

As to the negative meaning of the sādhya as a generic object, it is other than all that which is not a determinant of itself. In other words, it is the negation of the reciprocal negation of the sādhya. If the sādhya is fire, its reciprocal negation is any other thing than fire. Now fire as a generic object means the negation of all things other than fire.

The above discussions make it clear that if the negation of negation means affirmation, then the substratum of the negation of the sādhya which is a generic object and is determined by the relation in which it exists in the Pakṣa exists in its substratum. And when the sādhya is a positive object, such a relation (i.e., the relation in which the negation of the sādhya exists in its locus) is svarūpa;[22] but when the sādhya is a negation, this relation is inherence.[23] But in any case the sādhya as a generic negatum and as determined by the relation determining it is negated.

But objection may be raised against this view that, in the inference, "It has reciprocal negation with the jar, as it has cloth-hood," the negatum is not the sādhya as a generic object and that the relation determining the substratum of the jar, the negation of the sādhya, is not inherence, but identity. In plain words, when the sādhya is negated, the negatum is the sādhya itself. But in the above inference, the sādhya is not at all the negatum, since the sādhya is a negation and not an affirmation and a negation cannot be a negatum. Again the jar exists on the jar in the relation of identity and the jar is not cloth-hood. Thus in this case the relation determining the substratum of the negation of the sādhya is identity and not inherence.

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[22] In the inference, "It has fire, as it has smoke," the negation of fire as fire exists in self-relation in water.

[23] In the inference, "It has reciprocal negation with jar-hood, as it is the cloth", jar-hood inheres in the jar which has reciprocal negation with the cloth.

In reply to this objection, it may be said that, as the absolute negation of an absolute negation is the negatum, so the sādhya, "reciprocal negation with the jar," is a negatum, when there is the absolute negation of its absolute negation. Thus reciprocal negation can be a negatum. Now the sādhya, reciprocal negation with the jar, brings by its absolute negation jar-hood. Jar-hood inheres in jars. Existence pertaining to jars is negated in cloth-hood. Hence the relation determining the substratum of the negation of the sādhya is inherence in this case.

But it may be objected that though the absolute negation of absolute negation is the negatum, yet reciprocal negation is not the negatum of the absolute negation of its absolute negation. For the negation of reciprocal negation with the jar is the jar and when the jar is negated, the negatum is the jar and not reciprocal negation with the jar.

But this objection rests on the misconception of the nature of the knowledge of the thing which has reciprocal non-existence with another. Where we have the knowledge of the reciprocal negation of a jar, we do not have the knowledge of the absolute negation of the reciprocal negation of the jar; on the contrary, the recognised custom of the Old School is to admit, in this case, a knowledge of the absolute negation of the absolute negation of the reciprocal negation of a jar. Udayana in his "Nyāya-Kusumānjalī" definitely asserts this, when he says that the negation of the negation of an object is the object itself (abhāva-virahātmatvam vastunaḥ pratiyogitā). Again the teachers of the Old School (Upādhyāyāḥ) consider the absolute negation of jar-hood to be the same as a reciprocal negation of a jar.* Hence the argument that the absolute negation of the absolute negation of the reciprocal negation of the jar posits the jar and not the reciprocal negation of the jar is one-sided having no support from any other quarters.

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* To say that jar-hood does not exist in the cloth (absolute negation) is the same as to say that the jar is not the cloth (reciprocal negation).

Thus the relation determining the substratum of the negation of the sādhya is one in which this negation having for its negatum the sādhya as a generic object and as determined by the relation determining the sādhya exists in its substratum. But it may be objected that it is sufficient if it is said that the sādhya as a generic object is negated and the existence determined by the locus of this negation is negated in the Hetu. In other words, the objection is that the condition that the sādhya is also to be determined by the relation determining it is redundant. In the inference, "It has fire, as it has smoke," fire is the negatum when it is negated and its negation exists in its substratum in self-relation. Such a substratum is a lake existence pertaining to which is negated in smoke and this is what is the definition demands.

But this objection is untenable, as there may be an inference to which the definition does not apply without this condition. Let us consider the inference, "The self is devoid of the cognition of self in time relation, because the self has the character of self-hood." Here "devoid" means negation or absence. This absence* or negation of self in time relation is related to self in self-relation (svarūpa sambandha) and not in time relation. Here the sādhya is "the negation, in self relation, of cognition of self-hood in time relation" and it exists in its locus in self-relation. The negation of the generic sādhya, in the relation determining it, is the cognition of self-hood in time relation. The substratum, in time-relation, of this negation of the sādhya, i.e., cognition of self-hood etc., is generated objects and Eternity, as everything bears time-relation to generated objects and Eternity. The Hetu, the soul, is neither a generated object nor Eternity. Hence the definition well applies to this case. But if the Sādhya is said to be negated being determined only by its generic essence and not by its determinant relation, then the definition does not apply to this inference. And the reason of this avyāpti is this: Like time-relation, self-relation is also the determinant of the sādhya in this inference. And neglecting time-relation, we take only self-relation as such a determinant. The negation of the sādhya is the cognition of self-hood etc. Its substratum is the soul the hetu. So the definition does not apply to the inference.

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* "Kālikasambandhāvacchinnātmatva-prakāraka-pramāviśeṣyatvā-bhāvasya viśeṣaṇatā-viśeṣeṇa sādhyatve ātmatvādi hetāvāvyāptyāpatteḥ." Māthurī Tattvacintāmaṇi, Part II, p. 35.

One important point crops up in this connection. The example of inference, taken by Mathurānātha in this instance, has a sādhya which is universally present (kevalānvayī). The negation, in self-relation, of cognition of self-hood etc. (the sādhya) holds for all times and places. But according to Gangeśa the five provisional definitions do not apply to an inference whose sādhya is universally present. Hence the view of Mathurānātha seems to be that Gangeśa's stricture on the five definitions are not applicable to all inferences whose sādhya is universally present, but to some inference of such nature.

However, accepting the view that the negation of negation is affirmation, the relation determining the substratum of the negation of the sādhya can be determined. And as the negation of reciprocal negation is also the negatum, the definition applies even to an inference whose sādhya is determined by the relation of identity. In the inference, "It has the cow, as it has cow-hood," let the sādhya be taken in the relation of identity. Then the negation of the sādhya is the non-existence of the cow in the relation of identity. The cow or the class-cow in the relation of identity is the class-cow. The negation of the class-cow exists in its substratum in self-relation. Hence the substratum of the negation of the sādhya is determined by self-relation. Such a substratum is things other than the cow. Existence pertaining to things other than the cow is negated in the Hetu, cow-hood, and this is what the definition requires.

But there may be an inference to which, inspite of all the modifications stated above, the definition does not apply. Consider, for example, the inference, "It is not jar i.e., it has reciprocal negation with the jar, as it has the essence of jar-hood (ghatatvatvāt)". Here the negation of the sādhya, the reciprocal negation of a jar, is jar-hood, i.e., the negation of not being a jar is jar-hood, as the negation of the reciprocal negation is the negatum.[24] The negation of the generic sādhya is the negation of the reciprocal negation of the jar. As in reciprocal negation, the negatum is negated in the anuyogī or the referent of the negatum, in the relation of identity there with, i.e., as reciprocal negation is negation of the identity of the Pratiyogī (negatum) with the anuyogī, the referent of the negatum, here the determining relation of the sādhya as negation is the relation of identity (with Pakṣa). The negation of the reciprocal negation of the jar, as determined by the relation of identity (with the Pakṣa), is jar-hood which is not negated in the Hetu, the essence of jar-hood. Hence there is avyāpti.

To obviate this difficulty Mathurānātha points out that the generic sādhya is to be qualified by the determination of absolute negation (atyantābhāvatva-nirūpitatva).[25] Let us see how this additional qualification saves the defition from the fault of narrowness in the above inference. The sādhya as a generic object is reciprocal negation with the jar. This generic sādhya, as qualified by the determination of absolute negation, is the absolute negation of the jar. The negation of the absolute negation of the jar is the jar or jar-hood. Jarhood inheres in jars. Existence pertaining to jars is negated in the Hetu, essenceof-jar-dood (though it is not negated in jar-hood). Thus there is the negation, in the Hetu, of the location pertaining to the substratum of the non-existence of the sādhya as demanded by the definition.

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[24] According to the Old School, the negation of reciprocal negation is the determinant of the negatum as also of the essence thereof. The negation of "this is not a jar" posits both jar and jar-hood. Similarly the negation of the negation of the jar posits the jar as also jar-hood.

[25] Ittham ca atyantābhāvatva-nirūpitatvena api sādhya-sāmānyīya-pratiyogitā viśeṣaṇīya, Anyathā ghatānyonyābhāvavān ghatatvatvāt ityādou avyāptyāpatteḥ, tādātmya sambandhasyāpi nirukta-sādhyābhava-vṛtti-sādhīya-pratiyogitāvacchedakatvāt (Māthurī).

It may be remarked here that the inference, "It has reciprocal negation with or differenee from the jar, as it has the essence of virtue of jar-hood (ghatatvatva) is not a universal though jar-hood is a universal. For the definition of a universal is eternal inherence in many things (nityatve sati anekasamavetatvam, Muktāvalī on verse 8) and what abides only in a single individual is not a universal (ekamātravyaktivṛttistu na jātih, ibid). But jar-hood (ghatatva) is one; so the essence of virtue of jar-hood is not a universal. In fact, according to Navya-Nyāya, "universal is not the substratum of a universal (sāmānyānadhikaraṇatvām sāmānyādināmityarthaḥ, Muktāvalī on verse 15).

Thus the relation determining the substratum of the negation of the sādhya in the definition that non-existence, in the Hetu, of objects having a substratum in which the sādhya is negated, determines invariable concomitance, is sufficiently discussed. The next thing is to indicate the nature of the substratum of the negation of the sādhya itself. This substrate of the sādhyā-bhāva (absence of sādhya) must be such that the absence or negation in question must hold without qualification or limit in respect of it. (niravacchinnā-dhikaraṇatā). In other words, only that substratum of the non-existence of the sādhya in respect of which the negation holds pervasively is to be taken. Understanding the substratum of the negation of the sādhya in this sense, let us see whether the definition fails in the case of the inference, "This has the conjunction of monkey, as it is this tree" (We have seen in the beginning that according to Raghunātha the second definition is formulated, as the first definition is feared to be incapable of explaining Vyāpti in this inference). The sādhya, in this inference, is the conjunction of monkey or monkey-conjunction. The relation determining the sādhya is inherence, as conjunction, being a quality, inheres in the substance. The negation of the sādhya is the non-existence of monkey-conjunction. This non-existence of monkey-conjunction is either partial or complete. On the thing which has the conjunction of monkey the negation is of partial extensity, as in one place (i.e., the top) this object has the monkey-conjunction and in another i.e., in the (base) there is no monkey-conjunction. Hence the absence does not hold pervasively in respect of the tree, being true of the base and not of the top. But in such things as are incapable by nature of the quality 'conjunction,' the negation of the sādhya 'monkey-conjunction' holds pervasively. These things are quality etc., on which the monkey can never sit (quality of quality being impossible). The being which a quality has and on which the monkey can never sit is negated on this tree whose presence implies monkey-conjunction.

This tree is again the Hetu. Hence there is the negation of location, in the Hetu, pertaining to the locus of the non-existence of the sādhya and the definition is not invalidated. Similarly, the definition applied to the inference, "It has the negation of specific existence other than that of quality and action, as it is a quality," because the substratum in which the negation of the sādhya holds pervasively or without exception in self-relation is negated in the Hetu quality. (The negation of the sādhya gives us existence other than that of quality and action; its substratum is substance; specific existence inhering in substance is negated in quality).*

But there may be a case of inference in which the question of a substratum on which the negation of the sādhya holds pervasively does not arise. "It has the non-existence of monkey-conjunction, as it has existence." In this inference, the sādhya is the negation of monkey-conjunction. The negation of the negation of monkey-conjunction (the negation of the sādhya) is of partial extension and never of complete extension. For the negation of the negation of monkey-conjunction really means monkey-conjunction which cannot be present throughout a tree. Hence the question of the complete extension of the negation of the sādhya in its substratum does not arise in this case.

The answer of Mathurānātha to this objection is that it is an instance of an inference whose sādhya is universally present (Kevalānvayī)[26] and to this kind of inference the definition does not apply according to Gangeśa himself.*

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* Vide Māthurī, Tattvacintāmaṇi, Part II, p. 36.

[26] The sādhya in the inference, "it has the non-existence of monkey-conjunction, as it has existence" is universally present, because there is non-existence of monkey-conjunction in every object. When the monkey is on the tree there is the non existence of monkey-conjunction at its root and on all objects with which the monkey is not united. According to some logicians, however, this is not a genuine Kevalānvayī inference (an inference in which the sādhya is universally present).

* Na caivam kapisamyogābhāvavān sattvāt ityādou niravacchinna-sādhyābhāvādhikaraṇatvāprasiddhyāvyāptiriti vācyam kevalānva yinyabhāvāt ityanena granthakṛtaivasya doṣasya vakṣyamāṇatvāt. Māthurī, Tattvaccintāmaṇi, Part II, p. 37

But objection may be raised that the definition is guilty of narrowness being inapplicable to an inference in which the negation of the sādhya is of partial extensity in its substratum (avyāpyavṛtti) but in which the sādhya is not universally present. Consider, for example, the inference, "It has difference from monkey-conjunction, as it is a quality." Here the sādhya is "difference from monkey-conjunction" or "the reciprocal negation of monkey-conjunction." The negation of the reciprocal negation of monkey-conjunction is monkey-conjunction. This monkey-conjunction exists on the part of an object. Hence the substratum of the negation of the sādhya is of partial extension in this case. The sādhya, difference from monkey-conjunction, is also not universally present. Hence the definition fails in this instance.

Mathurānātha meets this charge in two ways. Firstly, to those, who take the reciprocal negation of monkey-conjunction to be kevalānayī (as there is always reciprocal negation of monkey-conjunction not only with a part of the object which has the conjunction of monkey but also with all other objects which have not the conjunction of monkey) the definition is not faulty, as the claim of the definition to apply to an inference whose sādhya is unversally present (kevalānvayī) is set aside from the beginning. But these, who do not take the sādhya, in this inference, to be universally present, consider the negation of the reciprocal negation of the thing having partial location of some other object in it, to be a separate negation which is of complete extensity in its substratum. The negation of the reciprocal negation of monkey-conjunction (the negation of the sādhya), therefore, has a substratum in which the negation is completely extensive. Thus the objection is untenable.*

We have by this time indicated the exact significance of every term in the definition the non-existence, in the Hetu, of objects having a substratum in which the sādhya is absent, determines invariable concomitance. We have seen that in this definition, the non-existence of the objects constituting the substrata of the negation of the sādhya means non-existence of all such objects (i.e., the entire denotation of the substrata). Secondly, all that is the substrate of the absence of the sādhya has to be taken as such in the relation in which the hetu stands to the Pakṣa. Thirdly, the absence of the sādhya has to be taken as absence there of in the relation in which the sādhya is predicated of the Pakṣa. Fourthly, the absence of the sādhya has to be taken as characterising its substrate in self-relation (svarūpa-sambandha). Fifthly and lastly, the absence of the sādhya has to be taken in reference to such substrates as admit of unrestricted qualification by such absence. But exception may be taken to the view that existence pertaining to the substratum of the non-existence of the sādhya must be determined by the relation determining the Hetu. Let us, therefore, consider the possible objections to this view before we proceed to the second definition.

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* Māthutī, Tattvacintāmani, Part II, p. 37.

In the first place, the definition applies to a fallacious inference like, "It has fire, as it is ether" (Idam vahnimat gaganāt). For the relation determining the Hetu, in this case, is inherence, and the Hetu "ether" does not inhere in lakes etc. which are the substrata of the non-existence of the sādhya.

Secondly, the definition does not apply to a correct inference like "It is a substance, as it has existence other that than of quality and action."[27] For here the relation determining the Hetu is inherence ; the sādhya is substancehood ; the substratum of the non-existence of substance-hood is quality, action, etc ; the relation in which quality, action, etc are related to their substrate is the relation of inherence , the Hetu is existence other than that of quality and action, i.e., existence inhering in substance ; but this existence is a common feature of substence, quality the action ; in this Hetu there is no negation of the locus in which the sādhya is absent, Thus the defination turns to be narrow in this case,

Thirdly the definition also does not apply to the inference, "it has existence, as it is a substance." For Sattvā or being through relation to the universal of being pertains to substances, qualities and action, but not to universals, ultimate differentials, inherence and negation. Of the latter four, inherence and negation are not related to their substrata by the relation of inherence, the relation in which the hetu stands to the Pakṣa,

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[27] Existence is a common feature (sādharmya) of substance, quality and action. Hence existence not belonging to quality and action must be that of substance,

In answer to these objections, Mathurānātha adds fresh adjuncts which make the definition applicable to all cases of inferences whose sādhya is not universally present, including the above three. Let us try to understand the definition in this new perspective. The negation of generic existence pertaining to the substratum on which the negation of the sādhya, as determined by the essence and relation determining it, is completely extensive through self-relation, is to be taken in the self-relation as determined by the location determined by the relation determining the Hetu which exists in its substratum determined by the essence determining it*. In other words absence of the absence of the sādhya (probandum) is to be taken as characterising the hetu in the same type of self-relation as holds between the hetu as ādhāra or substrate and its form or nature as ādheya. To make it simpler still, the Hetu exists in a particular[28] relation and as a nature or essence ; the location of the Hetu, so conditioned, bears self-relation to the Hetu, the located ; this type of self-relation should be the determinant of the absence of the sādhya. Let us see how the definition, understood in this sense, applies to the inference, "It has fire, as it has smoke" and to the inferencs, where the definition is alleged to be inapplicable. To take the inference, "The hill has fire, as it has smoke", the substrata of the non-existence of the sādhya 'fire' are lakes, parts of smoke, etc (here fire is determined by fire-hood and is related by the relation of conjunction to the hill). The esence determining the Hetu is smoke-hood (here smoke is taken as smoke and not as causing invisibility and so on). The relation in which it stands to the hill is conjunction and its substrata are the hill, kitchen etc. Thus smoke possesses the virtue of being located in the relation of conjunction and can exist as smoke, on the hill, kitchen, etc. This virtue of being located in the relation of conjunction and this existence as smoke on the hill, kitchen, etc, bear self-relation to smoke. The being of the lake and the parts of smoke etc., in time-relation or conjunction or inherence, or any other relation, is negated in or excluded from the hetu 'smoke' through the relation of this kind of self-relation. But the negation of the being of the lake etc, as determined by the relation of conjunction or time relation etc, or the negation of the parts of smoke is universally present, when it exists in its substratum in self-relation whose relatum is the location of smoke, as determined by the relation of conjunction whose substratum is the hill etc, on which again smoke as smoke exists. In other words, the existence of the lake, as determined by the relation of conjunction or the existence of the parts of smoke as determined by the relation of samavetatva* is everywhere and every-when negated in the self-relation whose relatum is smoke as determined by the relation of conjunction and as existing on the hill etc ; for such a negation is one whose negatum is determined by a relation of an opposed substratum (Vyadhikaraṇa-sambandhāvacchinna-pratiyogitākābhāva) and a negation of this kind is universally present[29] (as we have seen in the introduction). Hence such a negation exists in the Hetu, smoke, and the definition is not faulty.

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* Māthurī, Tattvacintāmaṇi, Part II, p. 37-38.

[28] According to some thinkers of the Navya-Nyāya, the difference of the relatum makes the relation different, The relation of conjunction, for example, is conjunction pertaining to the jar, when the jar is in conjunction with the ground ; it is again pertaining to fire, when fire exists on the hill and so on. Similarly, the self-relation is different with the difference of the term related.

Similarly, in the inference, "It has existence, as it is a substance," location pertaining to ultimate differential, inherence and negation, which are the substrata of the negation of the sādhya, existence, is negated in the Hetu, substance, in the self-relation whose relatum is existence as determined by the relation of inherence. For ultimate differential, inherence and negation cannot exist in the self-relation whose relatum is existence which inheres in substance, attribute and action (and not in ultimate differential, inherence and negation) and the negation of these three in the said relation is a negation whose negatum is determined by the relation of an opposed substratum. But such a negation being universally present, is also present in the Hetu. Hence the definition applies to this case.

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[29] To make this simpler still, a lake can never exist as smoke, nor the part of smoke in the self-relation, in smoke,

* The relation of the whole to the part is samavāya, but the relation of the part to the whole is samavetatva (the part is something in which the whole inheres).

Likewise the definition does not apply to the fallacious inference, "It is a substance, as it has existence." For here the sādhya is substance-hood; the substratum of the non-existence of substance-hood is attribute, action and the other four padārthas of universal, ultimate differential, inherence, and negation; and in the Hetu 'existence,' existence pertaining to attribute and action, in the self-relation whose relatum is existence as determined by inherence, is not negated, as the latter bears to the former self-relation.

Let us now see whether the definition applies to the inference, "It is a substance, as it has existence other than that of quality and action." Here the substratum of the non-existence of the sādhya, substance-hood, is quality, action etc. Existence pertaining to quality, action etc, in the relation of inherence, is to be negated in that self-relation which has for its relatum the Hetu, as determined by the relation in which it exists in its substratum and by the essence determining it. But the Hetu is existence other than that of quality and action. Hence existence pertaining to quality, action etc, is to be negated in the self-relation whose relatum is existence other than that of quality and action (the Hetu), i.e., existence of substance-hood, which inheres in its substratum. But such a negation, like the previous cases, is universally present and, therefore, is present in the Hetu. Hence the charge of narrowness of the definition fails, as it applies to this case.

In the same manner, let us see whether the definition applies to the fallacious inference, "It has fire, as it is ether." Here the substratum of the negation of the sādhya 'fire' is lakes etc. The being of lakes etc, is to be negated in the self-relation which has for its relatum the Hetu 'ether' as determined by the relation in which it exists in its substratum and by the essence determining it. But ether has no substratum. Hence such a self-relation is logically absurd. And as a consequence, the question of the application of the definition to the fallacious inference, under discussion, does not arise.

But the upholder of the view that non-existence, in the Hetu, of the location pertaining to the substratum of the non-existence of the sādhya defines invariable concomitance (the first provisional definition under discussion), thinks that in the inference, "It is a substance, as it has existence other than that of quality and action," the Hetu is specified existence (other than that of quality and action) which is pervaded by the sādhya, substance-hood, in the relation of substratum-hood as determined by specification and existence. So according to this view, the relation determining the Hetu in this inference is substratum-hood as determined by specification and existence and in this relation, the Hetu 'specified existence' (other than that of quality and action) exists only in the sādhya 'substance-hood' and in nothing else. And as a result of this, the existence pertaining to the substratum of the negation of the sādhya is to be negated, in the Hetu, through the self-relation whose relatum is the Hetu as determined by the relation determining the Hetu, the further qualification of this relatum being determined by the substratum-hood of the Hetu as determined by its essence, being unnecessary. For the relation determining the Hetu, in this case, is substratum-hood as determined by specification and existence and the negation of existence pertaining to quality and action (which are the substrate of the non-existence of the sādhya 'substance-hood') exists in the Hetu, specified existence other than that of quality and action, in the self relation whose relatum is specified existence other than that of quality and action, as determined by the relation of substratumhood determined by specification and existence.

Thus the definition succeeds, even when the being of the substratum of the non-existence of the sādhya is negated through that self-relation which has for its relatum the Hetu as determined by the relation determining it. But objection may be raised against this view that, considered in this light, the definition applies to the fallacious inference "It has jar-hood, as it has the duality of jar-hood and the negation of jar-hood" (here we must remember that duality extends to two things, and does not exist in one). In this inference the relation determining the Hetu is collective extensity (Paryāpti). Now to this wrong inference the definition is alleged to apply because in the substratum of the non-existence of the sādhya, the Hetu, the duality of jar-hood and the negation of jar-hood, is negated in the relation of collective extensity. The reason again of this non-existence of the Hetu in the substratum of the non-existence of the sādhya is that the substratum of the non-existence of jar-hood cannot possess collectively jar-hood and the negation of jar-hood, just as the jar is not both the jar and the cloth.[30]

The reply of Mathurānathā to this objection is that in such a case, the Hetu is to be qualified by co-presence with the sādhya in the relation determining the Hetu (hetutāvachhedaka-sambandhena sādhya-samānādhikaraṇatve sati ityanenaivaviśeṣaṇiyatvāt). And in support of this, he quotes Raghunātha who, in his Dīdhiti, says that the co-presence of the hetu with the sādhya in one identical substrate is vyāpti.

Now combining this new qualification with that under discussion, the definition amounts to this: Invariable concomitance is the co-presence of the Hetu, with the sādhya in the relation determining the Hetu, plus the negation, in the Hetu, of existence pertaining to the substrata of the non-existence of the sādhya, in that self-relation whose relatum is existence or location as determined by the relation determining the Hetu. Qualified by these adjuncts the definition is applicable to all cases of inference whose sādhya is not universally present.

Now let us see how the definition, understood in this sense, is inapplicable to the fallacious inference, "It has jar-hood, as it has the duality of jar-hood and the negation of jar-hood." Here the relation determining the Hetu is collective extensity. In this relation, co-presence of the duality of jar-hood and the negation of jar-hood (the Hetu) with jar-hood (the sādhya) is impossible, as jar-hood and the negation of jar-hood collectively cannot exist in the substratum of jar-hood. Hence the definition does not apply to this fallacious inference.

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[30] In the inference, "It has jar-hood, as it has the duality of jar-hood and the negation of jar-hood," the relation determining the Hetu is collective extensity. The substratum of the non-existence of the sādhya is cloth etc. Now the Hetu as determined by the relation of collective extensity is negated in the cloth etc, through self-relation. And as a universal negative proposition is simply convertible, it may be said that the locus of she negation of the sādhya is negated in the Hetu.

Thus, according to Mathurānātha, the first definition should be conditioned by so many adjuncts in order that it may be applicable to all cases of inference excepting the kevalānvayī (an inference whose sādhya is universally present). But before he passes on to the second definition, he gives us the views of two other teachers (the names of the teachers are not mentioned) who also arm the definition in such a way as to make it applicable to all cases of inference, excepting those which have their sādhya universally present. According to the first of these views, the negation, through self-relation of the entire denotation of the hetu, as determined by the relation and essence determining it, in the substratum in which the negation of the sādhya, as determined by the relation and essence determining it, is completely extensive through self-relation, determines Vyāpti.* To put it briefly, invariable concomitance is the non-existence, in self-relation of the entire denotation of the hetu, in the substratum of the non-existence of the sādhya which is determined by the essence and relation determining it. And from this angle of vision, when we consider the inference, "It has fire, as it has smoke," all the substrata of smoke, say the hill, kitchen, field etc, are negated through self-relation, in lakes etc, which are the substrata of the non-existence of the sādhya 'fire' as fire and as determined by the relation of conjunction. And by converting this universal negative proposition, we get the non-existence, in the Hetu, of objects pertaining to the substratum of the non-existence of the sādhya.

But when we take a fallacious inference like, "It has smoke, as it has fire," the definition, in the above sense, does not apply to it. For the substratum of the non-existence of smoke (the sādhya) may be the iron-ball in which the iron-ball on which fire (the Hetu) exists is not absent and thus there is not the negation of the entire denotation of the Hetu in the locus of the non-existence of the sādhya.

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* Māthurī, Tattvacintāmaṇi, Part II, p. 39.

It is our task now to explain the second one of the two views mentioned. An invariable concomitant is that Hetu which comprises all its substrata, as determined by the relation and essence determining it and in which there is the absence of every instance of the absence, through self-relation, of the sādhya as determined by the relation and essence determining it.* To put it in simpler terms, in every instance of the hetu (the Hetu here is determined by the relation and essence in which it exists), there should be the non-existence of all instances of the absence of the sādhya (the sādhya is also determined by the relation and essence in which it exists and is negated through self-relation) ; such a Hetu is the invariable concomitant of such a sādhya. Let us see the application of it in the correct inference, "It has fire, as it has smoke." The substrata of the Hetu are hill, field, kitchen etc. The substrata of the non-existence of the sādhya 'fire' are the lake, cloth etc. Now the lake, cloth etc are negated in the hill, field, kitchen etc. Hence all cases of smoke are cases of fire.

One important point may be noted in this connection The definition, in the sense just now described, applies also to inferences whose sādhya is present in a part of the locus of the Hetu, but has complete existence everywhere else. Consider, for example, the inference, "It has the negation of monkey-conjunction, as it has existence." Here the Hetu is existence and the sādhya is the negation of monkey-conjunction. The substratum of existence is substance, quality and action. In these three, there is the negation of the substratum-hood of the negation of the negation of monkey-conjunction, as the negation of the negation of monkey-conjunction has for its substratum monkey-conjunction which is absent in substance, quality and action. Hence existence (the Hetu) is the invariable concomitant of the negation of monkey-conjunction (the sādhya).

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* Ibid.

We have given by this time the main ideas of Mathurānatha's comments on the first provisional definition of Vyāpti. But before we take up the second, let us indicate Jagadīśa's interpretation of the first definition. Jagadīśa in his "Tattva-cintāmaṇimayūkha" (manuscript) adopts a line of interpretation which has, on occasions, a close similarity to Mathurānātha's.[31] We have seen that, according to Mathurānātha, the negation[31] of the sādhya, in the first definition (the negation in the hetu of the location pertaining to the locus of the non-existence of the sādhya determines Vyāpti), has its negatum determined by the relation and essence determining the sādhya. Similarly, Jagadīśa says that the sādhya, as determined by the relation and nature in which it exists, is negated and the substratum of this negation has non-existence in the Hetu.[32] And as Mathurānātha shows that the definition applies even to the inference, "It has monkey-conjunction, as it is this tree," when only that substratum in which the negation of the sādhya[33] is completely extensive has non-existence in the Hetu, so Jagadīśa points out that the substratum of the non-existence of the sādhya, monkey-conjunction, as determined by the relation of complete extensity, is negated in "this tree" which has monkey-conjunction in the relation of partial extensity.

Thirdly both Mathurānātha and Jagadīśa think that the relation determining the substratum of the negation of the sādhya is self-relation (svarūpa-sambandha). Jagadīśa, of course, directly does not say that this relation is svarupa, but the meaning of what he says in this connection clearly points to that direction. He says that the substratum of the non-existence of the sādhya is to be taken in that relation which is the determinant of the negation of the sādhya which exists in its substratum in the relation determining it.[34] In other words, it is a relation in which the negation of the sādhya stands and not the relation in which the sādhya exists. But as a negation abides in its locus in self-relation (svarūpa-sambandha), this relation is the same.

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[31] Some prima facie objections, answered by Mathurānātha, are found in the Tattvacintāmaṇimayūkha and again some of the adjuncts which Mathurānātha adds to the definition are exactly the same as Jagadīśa adds. This well proves the view that both Jagadīśa and Mathurātha were pupils of Rāmabhadra Sārvabhauma.

[32] Tattvacintāmaṇimayūkha—Yena sambandhena rūpeṇa vā sādhyatā tat-sambandhena yastu tadrūpāvacchinnābhāvastatvatavṛttitvam.

[33] Here the sādhya is determined by the relation and essence determining it and its negation exists in its substratum in self-relation.

But the difference between them is generally with the choice of examples. Thus Mathurānātha shows that the definition does not apply to an anvaya-vyatirekī inference like.[35] "It has fire, as it has smoke", when the sādhya, as determined by the relation and essence determining it, is not negated. Jagadīśa, on the contrary, points out that when the sādhya, as determined by the relation and essence in which it exists, is not negated, the definition is inapplicable to a kevalevyatirekī inference like "earth is different from other things as it has earth-hood.[36]" Again Mathurānātha shows that if the substratum of the non-existence of the sādhya is not determined by self-relation, then the definition does not apply to the inferences, "It has quality, as it has knowledge", and "It has existence, as it has a generic attribute." But Jagadīśa opines that the definition is invalidated in the inference. "It is different from the jar, as it has clothhood", when the substratum of the non-existence of the sādhya is determined by any kind of spatial relation.[37]

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[34] Sādhyābhāvavatvanceha nirukta sambandhāvacchinna sādhyāvattāgrahavirodhitāvaccheddaka sambandhenaiva grāhyam.

[35] Three kinds of inferences are distinguished in the Nyāya:

1. Kevalānvayī (An inference whose sādhya is universally present).

2. Kevala-vyatirekī (Inference based only on negative invariable concomitance). This inference has no other similar instance. i. e., in it the sādhya does not extend beyond the Pakṣa and the negation of the sādhya is the negation of the Hetu. In the inference, "Earth is different from other things, as it has earth-hood"; both "earth-hood" and "difference from other things" are negated, for example, in water.

3. Anvaya-Vyatirekī (Both affirmative and negative), In this inference both the sādhya and the non-existence of the sādhya extend beyond the Pakṣa. Fire, for example, extends to the kitchen and the non-existence of fire to lakes (to consider the inference, "The hill has fire, as it has smoke".) For these distinctions vide Tarkāmṛta of Jagadīśa. Vide also the introduction.

[36] Here the relation determining the sādhya "difference from other things" is identity, as the negatum of a reciprocal negation is determined by this relation. Here the question of the sādhya to be determined by any other relation, say inherence or conjunction, is absurd because the sādhya, "difference from other things", has negation everywhere in the relation of conjunction or in the relation of inherence. In other words, the negation of "difference from other things" in the relation of conjunction or inherence is Kevalānvayī and as such exists in the Hetu,

But the most striking difference between them appears with regard to the kind of being that attaches to the particular instances of the non-existence of the sādhya. We have seen that according to Mathurānātha such being is to be determined by the relation determining the Hetu. Jagadīśa, on the contrary, points out that the definition is frustrated in the inference, "It has existence, as it is a substance," if the relation determining the Hetu is to be the determinant of the being attaching to the particular instances of the non-existence of the sādhya (sādhyābhāvavati hetutāghataktvena sambandhena tayā vṛtti stadabhāvasyoktou ca sattvāvān dravyatvātādītvādou tathā sattvādyabhāvavati sāmānyādou hetutāghataka-samavāyāditi sambandhenavṛttiraprasiddheḥ). We have also seen how Mathurānātha replies to this objection by qualifying the definition with fresh adjuncts.

Thus the objections raised by Jagadīśa against the first definition are answered by Mathurānātha who, by appropriate qualifications, makes the definition applicable to almost all cases of inference, except the Kevalānvayī. And this shows that Mathurānātha's comments on the first provisional definition are more comprehensive than Jagadīśa's. But we have sufficiently explained Mathurānātha's position with regard to the first definition. So let us now pass on to the second definition and try to understand its import.

The second definition runs as follows:—The negation in the Hetu, of existence pertaining to the substratum of the non-existence of the sādhya, which (the non-existence of the sādhya) exists in a substratum which is different from the substratum of the sadhya, determines invariable concomitance (sādhyavat-bhinna-sādhyābhāvavavavṛttitvam). If his the hetu and s the sādhya, then the definition means that vyāpti (objective invariable relation between the hetu and sādhya) is the non-existence, in h, of not-s as other than what has s. In other words, no not-s as other than or distinct form any instance of s is h. Or no not-s as reciprocal negation of all instances of s is h. It is to be noted that s is here taken in denotation so that not-s means the exclusion of the class s. Therefore, the formula resolves itself into what is other than or reciprocal negation of the class s is not h. Let us see how this definition applies to the inference, "it has fire, as it has smoke." The substrata or denotata of the sādhya 'fire' are the hill, kitchen, field etc. A substratum, different from i.e., reciprocal negation of all these, is, for example, the lake. In the lake, there is the non-existence of the sādhya 'fire'. There is no smoke in the lake. Therefore the hetu smoke is negated in the lake which is other than or reciprocal negation of the denotata of the sādhya.

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[37] Tatra ghatatvādi svarūpasya sādhyābhāvasya daiśikaviśe ṣaṇatayā adhikaraṇatvāprasidheh (as jar-hood, which is the negation of the reciprocal-negation of the jar, does not exist in its substratum in any kind of spatial relation. Jar-hood exists in its locus in the relation of inherence).

The necessity of this second definition is, according to the earlier Logicians, to fill up the gap in the first definition. The first definition is supposed to fail in an inference like "It has monkey-conjunction, as it is this-tree", in which the sādhya is present in a part of the locus of the Hetu. (We have seen it in the beginning of our discussion of the first definition). The second defiinition is considered to remove this defect. Let us see how the second definition applies to the inference, "It has monkey-conjunction, as it is this-tree". The substratum of the sādhya viz, monkey conjunction here is "this tree". The substratum different from "this-tree" is quality etc, on which monkey cannot sit. The non-existence of the sādhya' monkey-conjunction' in quality etc, has for its substrata or denotata quality etc. Existence pertaining to quality etc, is negated in the Hetu, this tree. Hence this-tree is the invariable concomitant of monkey-conjunction.

Thus according to the earlier Logicians the second definition applies to an inference whose sādhya co-exists with the Hetu, but is not co-extensive with it and the first definition being inapplicable to this, the second one is invented. Raghunātha's explanation of the necessity of the second definition is also the same. But Mathurānātha thinks that the first definition is not frustrated in this case, if the substratum of the negation of the sādhya is taken completely i. e., if the substratum of the complete extensity of the negation of the sādhya is only taken into consideration. Hence his explanation of the necessity of the second definition is different. He opines that the substrata of the complete extensity of the negation of the sādhya may not be available in all cases and to remove this inconvenience, the second definition has been formulated.

Now as to the proper meaning of the second definition, Mathurānātha points out that the earlier Logicians misinterpreted it. According to them the definition means that Vyāpti is the negation, in the Hetu, of the denotata of the absence of the sādhya as other than or different from the denotata of the sādhya. But if this meaning is accepted, then the expression, denotata of the absence of the sādhya, becomes superfluous. For the negation of the denotata which are different from the denotata sādhya and the negation of the denotata of the absence of the sādhya as different from the denotata of the sādhya are equivalent. Hence the New School interprets the second definition in the following manner: Vyāpti is the negation, in the Hetu, of the denotata of the absence of the sādhya which absence is present in the denotata which are different from the denotata of the sādhya.* Now in the first definition the negation was the negation of the denotata of the absence of the sādhya. Hence in the second definition, we have the addition of the denotata as other than or different from the denotata of the sādhya. And this addition saves the definition from being inapplicable to the inference, "It has conjunction, as it has substance-hood." For here the Sādhya is conjunction; the denotatum of conjunction is substance (as the relation of conjunction obtains between two substances); the denotata that are other than or different from substance, are quality, action, etc; the negation of conjunction exists in quality, action, etc; the absence of conjunction in quality and action has for its denotata quality, action etc, and not substance, as the difference of denotata makes negations different (hence negation existing in quality, action etc, cannot exist anywhere else); the being of quality, action etc, is negated in the Hetu 'substance-hood' (as substance-hood inheres only in substance) and this is the demand of the definition.

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* Māthurī, Tattvacintāmaṇi, Part II, P. 40.

But the first definition does not apply to this inference. For the substratum of the non-existence of the-sādhya, conjunction, is quality, action, etc, and also substance (as there may be a substance in a distant part of the globe, with which no other substance may be in actual contact) and in the Hetu, substance-hood, substance is not negated.

Thus the proper meaning of the second definition is that invariable concomitance is the negation, in the Hetu, of the denotata of the absence of the sādhya, as other than or different from the denotata of the sādhya. Now here the expression "absence of the sādhya" is unavoidable; for the definition, without this, will not apply to any correct inference and thus will be involved in the fallacy of asambhava (absolute absurdity or impossibility). Let us take the inference, "It has fire, as it has smoke." The sādhya, in this case, is fire. The denotata of fire are the hill, kitchen, field etc. The objects different from the hill, kitchen etc, are the lake etc. Existence of the lake is substantive existence or substance-hood (dravyatva), as the lake is a substance. The denotation of substance-hood comprises the hill (the hill being a substance). The hill is not again negated in the Hetu 'smoke', as smoke exists on the hill. Hence the definition commits the fallacy of asambhava being applicable no-where. Similarly "the sādhya," in the expression, "absence of the sādhya," saves the definition from the fallacy of asambhava. For the definition minus this "sadhya" is the absence of the denotata of the absence in the denotata other than or different from the denotata of the sādhya, and in this sense it does not apply to the inference, "It has fire, as it has smoke." Let us explain this point. The sādhya in this inference is fire. The denotata of fire are the hill, kitchen, field etc. The objects other than these are the lake etc. The lake is a substance and therefore has substance-hood. Absence in (the objects) other than or different from the denotata of the sādhya is the absence of substance-hood in the denotata different from the denotata of the sādhya, i.e., we arrive at the negation of the negation of substance-hood. The negation of the negation of substance-hood is substance-hood. Hence substance hood, in this case, may be called a positional negation (Bhāvarūpābhāva, see the Intoduction). And a positional negation being not different with the difference of substrata, the hill may be the substratum of this substance-hood which also exists in the lake etc. In so far as smoke exists in the hill, the hill is not negated in smoke. Hence the definition fails to apply to this case.

Thus on the theory, that a positional negation does not differ in different substrate, the mention of "sādhya" in sādhyā-bhāvavat etc., in the second definition, is significant and extricates the definition from the charge of asambhava. But it may be objected that the definition is guilty of narrowness in the in ference, "It has the negation of either the conjunction of jar-limited-ether or of jar-hood, as it has ether-hood," if the theory that the positional negation does not differ in different substrata, is accepted.* For the sādhya, in this inference, is the negation of either the conjunction of jar-limited-ether or jar-hood; the conjunction of jar-limited-ether exists in the jar and ether; jar-hood inheres in the jar; hence one or other of these two holds of the jar and ether; but the negation of these two as alternatives, i.e., of either, the conjunction of jar-limited ether or jar-hood, holds good every where excepting the jar; hence the substratum of the sādhya is every thing excepting the jar; the substratum different from every thing excepting the jar is the jar; the absence of the sādhya pertaining to the denotata different from the denotata of the sādhya is the negation of the negation of either the conjunction of jar-limited ether or jar-hood pertaining to the jar, i. e., conjunction of jar-limited-ether or jar-hood inhering in the jar ; the substrata of conjunction of jar-limited ether or of jar-hood inhering in the jar are the jar anh ether ; ether is not negated in the Hetu 'ether-hood'. Hence the definition is too-narrow being inappiicable to this case.

The reply of Mathurānātha to this objection, perhaps, is not quite to the point. He says that the second definition has been formulated on the theory that the negation of negation is a separate negation i.e., a positional negation and that negation is different in different loci.* And from this point of view the above objection is baseless. For, the negation of negation being an additional negation and negation differing in different loci, the negation of the negation of either the conjunction of jar-limited ether, or of jar-hood (the negation of the sādhya) characterising the jar, which is different from the substratum containing the sādhya, is an additional negation and varies with variation of substrata and, therefore, does not characterise or belong to the hetu ether-hood in which there is the negation of either the conjunction of jar-limited ether or of jar-hood. Here the negation of the negation of either the conjunction of jar-limited ether, or jar-hood has for its negatum, the negation of either the conjunction of jar-limited ether or of jar-hood and the substratum of this negatum is different from that of its negation (Pratiyogi-vyadhikaraṇa). And conversely, the negation of the negation of either the conjunction of jar-limited ether or of jar-hood and the negation of either the conjunction of jar-limited ether or of jar-hood are separated negations, because they are not co-existent in the same substratum but are present in different substrata. Thus the rule that a negation is different in different substrata is not true in all cases. Where the co-existence of the negation and its negatum and the opposed-substratum-hood of the negatum appear to be the same, there and there only the negation is to be held to be different in the conflicting substrata, otherwise two incompatibles become similar.[38] Let us explain this by a concrete example. The negation of conjunction may appertain to (a past and distant) substance and conjunction also obtains between two substances. Hence substance is a substratum in respect of which conjunction and its negation may both hold. Quality again is a locus in respect of which conjunction is always negated, as conjunction holds only between substances. Thus quality is an incompatible locus of conjunction. Hence the negation of conjunction in substance must be different from the negation of conjunction in quality, otherwise two incompatibles become undifferentiated. One important point is to be remembered in this connection. The negation of conjunction in substance is only partial and not complete and the negation of conjunction in quality is complete. Only in such cases the negation is different in the two substrata.

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* Māthurī, ibid.

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* Abhāvābhāvasyātiriktatvamatenaitalakṣṇakaraṇāt Tathāca adhikaraṇabhedena abhāvabhedāt. Māthurī, Tattvacintāmaṇi, Part II, P. 41.

[38] Yatrapratiyogi-samānādhikaraṇatva-pratiyogi-vyadhikararṇatva-lakṣaṇa-virūdhadharmmādhyāsaḥ tatra evaadhikaraṇabhedena abhāvavedābhyupagamah natu sarbatra. Māthurī, Tattvacintāmaṇi. Part II, P 41.

Thus the charge against the second definition that it is guilty of narrowness in the inference, "It has the negation of either the conjunction of jar-limited ether or of jar-hood, as it has ether-hood," fails on the theory that the negation of negation is also a negation and that negation differs with the difference of substrata. Hence every term in the second definition has its own significance and nothing in it is superfluous. But the question may be asked, is the second definition applicable to all cases of non-Kevalānvayī inference and if so, what is the necessity of the third definition? Raghunātha (in his Vyāptipañcaka-dīdhiti) replies to this by saying that though the second definition applies to the inference, "It has monkey-conjunction, as it is this-tree" and "It has conjunction, as it has substance-hood," yet in the latter, we have to uphold the theory that negation is different in different substrata in order that the second definition may apply to it. In other words, we assume that the negations of conjunction in quality, substance and action are all separate and different and on this assumption we can show that the second definition is not guilty of narrowness (we have already shown how the second definition applies to the inference, "It has conjunction, as it has substance-hood," taking negations to be different in different substrata). But this view is not-unanimously accepted. Some are of opinion that a negation which is partially present in a substratum and completely in another differs in these incongrouous substrata, but in other cases the negation does not vary with the variation of substrata.. Others again hold that a positional negation does not differ in different substrata. A third view thinks that the negation of negation is a separate negation in every case. A fourth theory, on the contrary, asserts that only the negations of negation of incompatible things like the conjunction of ether enclosed in a jar or jar-hood are separate negations, for jar-hood and conjunction of ether enclosed in a jar are never the same and hence the negation of their negation is an additional negation. But the negations of the negation of similar things like jar-hood and substance-hood are not separate negations. In view of this divergence of opinions, the third definition is formulated which will apply to the inference, "It has conjunction, as it has substance-hood."

Let us now explain the third definition and see how it applies to the inference, "It has conjunction, as it has substance hood." The third definition is Sādhyavat-pratiyogikānyonyābhāvāsāmānā-dhikaraṇyam. It means: Where the hetu is asamāna-adhikaraṇa, i.e., non-co-existant with whatever is other than, reciprocal negation of, or different from any instance of the sādhya, we have vyāpti or invariable relation between the hetu and the sādhya. Let us illustrate this by the stock example of the mountain on fire. The hetu here is smoke rising from the mountain. The sādhya is fire. Instances of fire are the kitchen-fire, the temple fire, etc. Other than these instances of particular fires are water in the lake, the earthen jar, the odour of the locus, the breeze of sea etc. Smoke which is the hetu exists in its own substrate some particular smoke and does not co-exist in the same substrate with the water of the lake, the earthen-jar, etc. Now in the inference, "It has conjunction, as it has substance-hood," the sādhya is conjunction. The substratum of conjunction is substance. The reciprocal negation with or difference from substance is a thing that exists in quality, action etc. The essence of quality or of action is excluded from or non-existent in substance. Hence the definition well applies to this inference even without the assumption that negation differs in different substrata.

Thus, according to Reghunātha, the third definition is formulated, because there is no definite and universally accepted proof that negation differs in different substrata. Jagadīśa also thinks that the necessity of the third defition lies in the view that the same negation may hold in respect of different substrata i.e., in the view that negation is not different in different substrata.[39]

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[39] In the "Maṇimayūkha" Jagadīśa says: Atrapratiyygimada-

Mathurānātha also agrees with Raghunātha that there being no definite proof that negation differs with the differences of substrata, the third definition has been devised. Let us now explain Mathurānātha's comments on the third definition. The third definition means that vyāpti is the absence, in the hetu, of the locus of the reciprocal negation of the locus of the sādhya (Hetou sādhya-vat-pratiyogika-anyonyābhāvādhikaraṇavṛttitvābhāva-ityarthaḥ). The reciprocal negation of the locus of fire has for its locus water which is absent in smoke. Hence smoke is the invariable concomitant of fire. Here the reciprocal non-existence is to be qualified by non-existence of the negatum (Anyonyābhāvaśca pratiyogyavṛttitvena viśeṣaṇiyaḥ).* For this will save the definition from the fallacy of asambhava, even when the hetu exists in the substratum of that reciprocal negation of the substratum of the sādhya, which has its negatum determined by a virtue or essence relating to number. Let us try to understand this with the help the inference. "It has fire, as it has smoke." In this inference, if the reciprocal negation of the substratum of the sādhya is not qualified by non-existence of the negatum, then the definition is involved in the fallacy of asambhava in the following way: The sādhya here is fire. The reciprocal negation whose negatum is the substratum of the sādhya is the difference or reciprocal negation of the substratum of fire. But when we assert the reciprocal negation of both a particular fire and a jar, as in the proposition "Both the particular fire and the jar are not this," 'the particular fire' is also a negatum of the reciprocal negation in the case in question. Hence the reciprocal negation or difference whose negatum is the substratum of the sādhya may also imply the reciprocal negation of both the substratum of the sādhya and the jar. The substratum of the difference or reciprocal negation of both the substratum of the sādhya 'fire' and the jar may be the hill, as the hill is not both the substratum of fire and the jar, i.e, the hill is not both the hill and the jar. Smoke again is present on the hill. Hence the definition does not apply

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nyatrapraveśāpeksayā navya-laksanamāha. This means that out of respect for the view that a negation, which has a negatum (and which exists in a substratum), may exist in other substrata as well, the new definition has been told.

*Māthurī, Tattvacintamaṇi, Part II, P. 42.

to this ordinary case, and, therefore, to no case and as such is guilty of the fallacy of asambhava.

But if the difference or reciprocal negation of the substratum of Sādhya, in the above inference, is qualified by non-existence of the negatum, then the definition is not involved in the fallacy of asambhava for the following reasons: The sādhya is fire. The substratum of the sādhya 'fire' is the hill etc. The difference, whose negatum is the substratum of the sādhya, is the difference from the hill etc. This differrnce is qualified by non-existence of the negatum i.e., the difference from the hill does not exist in the hill etc. The substratum of this difference then is different from the hill etc. The substratum different from the hill etc, is the lake etc. The lake is absent in smoke. Hence the definition applies to this case. In this instance the definite assertion that the difference from the hill etc, should not exist on the hill etc, prevents the negatum of the difference to be both the substratum of the sādhya, i.e., the hill and the jar. For the difference from the substratum of the sādhya, i.e., from the hill, is a thing which does not exist on the hill, while the difference from both the hill and the jar is a thing that exists on the hill. Here the latter is incompatible with the former and hence the question of the latter's possibility does not arise.

Thus the difference from the substratum of the sādhya is to be qualified by non-istence of the negatum, if the third definition is to be freed from the fallacy of asambhava. But in that case the definition does not apply to an inference whose sādhya exists in different substrata. Consider, for instance, the stock inference. "The hill has fire, as it has smoke". "The sādhya 'fire,' in this case, exists in different substrata like the hill, field, kitchen, yard etc. Taking yard to be the substratum of the sādhya, its difference or reciprocal negation is a thing which, not existing in it, exists on the hill on which smoke is present.

Now Raghunātha supposes this defect to be inherent in the third definition and according to him, the fourth definition is formulated to remove this defect. Mathurānātha also thinks that the third definition suffers from this defect in addition to the other defect of its inapplicability to the Kevelānvayī inference. But he thinks that this defect is not impossible to be removed. If the difference or reciprocal negation of the essence determining the substratum-hood of the sādhya is taken, instead of the difference of the substratum of the sādhya* then the substratum of the difference of the essence determining the substratumhood of the sādhya is negated in the locus of the hetu of the inference, "The hill has fire, as it has smokes". For the difference from the essence determining the substratum-hood of the sādhya fire is a thing that exists in the lake which is absent in smoke.

However, the fourth definition is formulated, according to both Raghunātha and Mathurānātha, in order that it may be applicable to an inference whose sādhya exists in a plurality of substrata. Let us now explain the fourth definition. When the hetu is the negatum of the absence of abhāva which runs through all instnces of the sādhya, we have vyāpti or a relation of invariable concomitance between the hetu & the Sādhya. If 'h' is the hetu and 's' the sādhya, then according to this definition, the vyāpti of the hetu will mean 'h' being equal to that which is negated in all instance of not-s, i. e., 'h' being equal to 's' which is negated in every instance of not-S. This definition applies to an inference in which the sādhya has a plurality of substrata in the following way: "It has fire, as it has smoke." Here the sādhya is fire. All the substrata of the non-existence of fire are all the objects like the lake etc. The negation characteristing all these is the negation of smoke, as smoke does not exist in any subsatratum of the negation of fire. The negatum of the negation of smoke, is smoke itself. Thus the definition well applies to this case.

But the definition is too-wide, if the substratum of the non-existence of the sādhya is not qualified by by "all". Minus this qualification, the definition is the negation characterising the substratum of the non-existence of the sādhya. But the definition in this form applies, as both Raghunātha and Mathurānātha point out, to the fallacious inference "It has smoke, as it has fire" and as such is too-wide. Hence the substratum of the non-existance of the sādhya is qualified by "all" in the definition. [40].

Māthurī, ibid, P. 43.

[40]. When the definition is that the Hetu is the negatum of the negation which characterises the substratum of the non-existence of the sādhya, it

But the definition, stated as it is, applies to the fallacious inference, "It is a substance, as it has existence" and to remove this superfluity Mathurānātha suggests that the Hetu should be determind by its determining essence and so determind it should be negated in all the substrata of the non existence of the sādhya.* Let us see how the definition is too wide being applicable to the fallacious inference", "It is a substance, as it has existence". The sādhya is substance-hood. All the substrata of the non-existence of substance-hood are quality, action etc. The absence in quality, action etc, is the absence of the existence of what is other than quality, action etc, The negatum of the negation of the existence of what is other than quality, action etc. is the existence of what is other than quality, action etc. This negatum is the Hetu as the specific existence in hering insubstance is also existence.

But if the Hetu as determined by its determining essence is negated in all the substrata of the non-existence of the sādhya, then the deffnition does not apply to the above fallacious inference. Let us explain this, The negatum of the negation characterising all the substrata of the non-exisistence of the Sādhya, in the inference, "It is a substance, as it has existence", is the existence of what is other than quality, action etc. Here we get two essences, viz, the essence of what is other than quality, action, etc. and the essence of existence. But the essence determining the Hetu 'existence', is only one. And as two cannot be equal to one, the definition does not apply to this case.

Thus the Hetu is to be negated in all the substrata of the non-existence of the sādhya being determined by its determining essence. And not only this. The Hetu should also be determind by the relation in which it exists in the Pakṣa and so determind it should be negated in all the substrata of the non-existence of the sādhya, as otherwise there arises the fallacy of a too-wide definition.* Consider for, example, the fallacious inference, "It is a substance, as it has

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applies to the fallacious inference. "It has smoke, as it has fire", in the following way:—

The sādhya is smoke. The substratum of the non existence of smoke is the lake. Fire does not exist in the lake.

*Māthurī, Tattvacintāmaṇi, Part II, P. 44.

existence". The substrata of ahe non-existence of the sādhya 'substance-hood' are quality, etc, The Hetu 'existence' is negated in quality, etc, through the relation of conjunction (as existence inheres in substance, quality and action). Hence the definition supplies to this fallacious inference.

But if the Hetu is negated in the substrata of the non-existence of the sādhya being determind by the ralation of inherence which it bears to the Pakṣa, then the definition does not apply to this inference, as in quality etc, there can never be the negation of existence through the relation of inherente (existence inhering in quality etc.).

In the next place, Mathurānātha suggests that the negation of the sādhya, in the fourth definition, should have its negatum determined by the relation and essence determining the sādhya' in order that the fallacy of asambhava may be avoided.* Let us take the inference, "The hill has fire, as it has smoke". The sādhya is fire. The negation of the sādhya is the negation of fire. Now if the sādhya 'fire' is not determined by the relation and essence determining it, then the sādhya may be the kitchen-fire. The substrata of the negation of the kitchen-fite are the hill, yerd, field ete, on which smoke exists. Here the definition does not apply to this ordinary inference. But if the sādhya 'fire' is taken as determind by the relation and essence determing it, then the substrata of the negation of fire as fite (the essence determining fire) and through the relation of conjunction (fire exists on the hill in the relation of conjuncton) are the lake etc. Smoke does not exist in the lake etc. And smoke is the Hetu. Hence the definition applies to the inference and as such is not involved in the fallacy of asambhava.

But it may de objected that though the definition does not commit the fallacy of asambhava, yet it is too narrow being inapplicable to the inference, "It has monkey-conjunction, as it is this-tree". For the substratum of the negation of the sādhya, 'monkey-conjunction', in this inference, is also this-tree in which the Hetu is not absent. In reply to this objection, Mathurānātha points out that only such substrata of the negation of the sādhya are relevant to the issue as are not mere partial but complete negations of the sādhya. Let us see how this device saves the definition from narrowness. The Sādhya in this inference is monkey-conjunction. The negation of the sādhya in the negation of monkey-conjunction. The substrata on which the negation of monkey-conjunction is completely extensive are quality etc. "This tree" the hetu is absent in quality erc. Hence the definition well applies to this case and, therefore, is not too narrow,

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*Māthurī, ibid.

But objection may be raised that though the definition is not too-narrow, it is too wide, as it applies to the fallacious inference, "It is earth, as it has monkey-conjunction" (the inference is fallactious, because even water may have the conjunction of monkey), if only the substrata in respect of which the negation of the sādhya is complete (and not partial) are to be accepted. For the substratum on which the negation of the ṣādhya 'earth-hood' is completely extensive is water and in some portion of water there must always be the negation of monkey-conjunction.

Mathurānātha replies to this objection by saying that just as the substrata on which the negation of the sādhya is complete & absolute, are only relevant, so also the negation which is complete in these substrata is to be taken. And in that case the definition does not apply to the above inferance, for in water (the substratum of the complete non-existence of the sādhya 'earth-hood') the negation which is complete & total is certainly not that of monkey-conjuntion (as there can be monkey-conjunction in some part of water).

But if the negation, which is complete and total in the substrata which have again the complete and total negation of the sādhya, is only to be accepted, then according to the view that the difference or reciprocal-negation of the substratum of non-pervasive existence is pervasive existence the definition does not apply to the inference, "It has the negation of substance-hood, as it possesses the difference or reiprocal-negation of the substratum of conjunction".[41] Let us see how the definition is inapplicable to this inference. The negation of the sādhya here is substance-hood, The substratum of substance-hood is substance. The negation which is complete in substance may be that of the essence of quality, as the essence of quality (guṇatva) exists in quality and not insubstance. But the difference from the substratum of conjunction indicates a padārtha other than substance (as the substratum of conjunction is substance) and hence the negation of the essence of quality is not the negation of the Hetu "the difference of the substratum of conjunction." Hence the definition is too-narrow being inapplicable tot his case.

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[41] According to the view that the difference or reciprocal non-existence of the substratum of partially pervading existence is completely pervading existence, this inference is correct, but according to others it is a fallacious inference.

But this objection, as Mathuranatha points out, does not stand on a sound basis. For the upholders of the doctrines that the difference or reciprocal negation of the substratum of non-pervasive existence is pervasive existence think that the negation of difference is a separate negation and from this stand-point the definition is not inapplicable to the inference in question.* Let us clarify this point. The Sādhya, in the inference under discussion, is the negation of substance-hood. The negation of the negation of substance-hood is substance-hood. The entire substratum (denotation) of substance-hood is substance. But the negation of the difference or reciprocal negation of the substratum of conjunction being a separate negation is complete in substance. Hence the definition applies to the inference and the charge of its narrowness fails.

But though the definition applies to this case, yet, it may be alleged, that it does not apply to the inference, "It has the negation of this-jar-hood, as it is cloth." For what is the definition? It is the non-existence of the Hetu in all the substrata of the non-existence of the sādhya. But the question of all the substrata of the non-existence of the sādhya is absurd in the inference just stated, for the simple reason that the substratum of the negation of the sādhya (negation of this-jar-hood) is this jar which is only one.

But this objection, Mathurānātha thinks, rests on the-misinterpretation of the word "all" in the definition. "All the substrata, of the negation of the sādhya" does not mean here many such substrata, but the complete substratum i.e., entire-denotation without any remainder (aśeṣa).* And viewed in-this light the definition applies to the inference, "It has the negation of this jar-hood, as it is cloth," for the question of one substratum, without any remainder, of the negation of the sādhya is not irrelevant in this inference.

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*Māthurī, Tattvacintāmaṇi, Part II, P. 45.

Thus the fourth definition is armed by Mathurānātha with necessary weapons in order that it may be freed from the faults of narrowness and superfluity in many cases of non-kevalānvayī inference. If we restate the definition so armed, then it runs as follows: Invariable concomitance is the negation of the Hetu, which is determined by the relation and essence determining it, in the entire substratum in which the negation of the sādhya, which is determined by the essence and relation determinieg it, is complete and total. Here the substratum of the negation of the sādhya, is taken completely in order that the definition may be applicable to the inference, "It has the conjunction of monkey, because it is this tree;" the sādhya, is considered to be negated being determined by the relation and essence determining it so that the definition may not be involved in the fallacy of asambhava; the substratum of the negation of the sādhya is taken entirely without any remainder to save the definition from the charge of narrowness in the case of the infereece, "It has the negation of this-jar-hood, as it is cloth", and lastly the Hetu is to be negated in every instance of the non-existence of the sādhya being determined by the relation and essence determining it, because the definition may de extricated from rhe charge of superfluity in the case of the fallacious inference, "It is a substance, as it has existence".

But inspite of all this, the definition, it may be objected, is not absolutely free from the fallacious of ativyāyti and avyāpti. For the substratum of the negation of the sādhya, it has been said, should be taken completely and in the fallactious inferenee, "It is a substance as it has existence," the general negation of the Hete "existence" pervades as a knowable the substratum of the non-existence of the sādhya. Thus the definition is too-wide, as it applies to a fallacious inference.

Secondly, pervasiveneess (vyāpakatva) means the non-determination by what is different from the pervaded. The hill, the locus of smoke, is not, for example, the locus of cloth. So the locus of cloth is different from the locus of smoke. Fire is the non-determinant of this locus of cloth. Hence Fire pervadcs smoke, In other words, the locus of smoke is not different from the locus of fire. Hence fire pervades smoke.

Now accepting this meaning of pervasiveness, it can he shown that the definition does not apply to the correct inference, "It is non-smoky, as it is non-fiery". Let us explain this. According to the definition the negation of the Hetu must pervade the entire denotation of the non-existence of the sādhya. Now in the inference under discussion the substrata of the non-existence of the sādhya "the non-smoky" are the hill, yard, field, kitchen etc, But the non-existeuce of the hetu the non-fiery, does not pervade these, if we follow the definition of pervasion just explained. For according to the principle of successive elimination (cālanīnyāya), the hill is different from the locus of the yard-fire, the kitchen is different from the locus of the field-fire and so on. But the locus of the yard-fire, or the hill-fire is the fiery which is the negation of the hetu, the non-fiery. Hence the negation of the hetu does not pervade the substrata the of non-existence of the sādhya.

The reply of Mathurānātha * to these objections is two fold. In the first place, the Hetu as determined by the relation and essence determining it, should be negated in the complete substratum of the non-existence of the sādhya which is determined by the relation and essence determining it. Secondly, pervasiveness should mean the non-determination of the negatum of the absolute negation which characterises the substratum of the pervaded. And under these two safe-guards, the definition does not apply to the fallacious inference. "It is a substance, as it has existence" and well applies to the correct inference". "It is non-smoky, as it is non-fiery", To take the former inference first, the negation of the sādhya, as determined by the relation and essence determining it, is the negation of substance-hood in the relation of inherence; the complete substratum of such negation is quality etc; existence as such and as determined by the relation of inherence is not negated in quality. Now as to the second inference, "It is non-smoky, as it non-fiery", the negation of

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*Māthurī, Tattvacintāmaṇi, Part II, P, 46.

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but the complete substratum i.e., entire-denotation without any remainder (aśeṣa).* And viewed in-this light the definition applies to the inference, "It has the negation of this jar-hood, as it is cloth," for the question of one substratum, without any remainder, of the negation of the sādhya is not irrelevant in this inference.

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*Māthurī, Tattvacintāmaṇi, Part II, P, 46.

the sādhya, as determined by the relation and essence determining it, is the negation of the negation of smoke in self-relation (svarūpasambandha). The negation of the negation of smoke in self-relation is smoke and the locus, in self-relation, of the negation of the negation of smoke is smoke itself. There is the absolute negation of the non-firey in every instance of smoke. Here the negation of the non-fiery is the fiery which certainly is the non-determinant of rhe negatum of the absolute negation of the non-fiery. Hence the definition applies to this case.

Thus the fourth definition is stretched, by Mathurānātha, to its utmost limit to make it applicable to instances to which it is not supposed to be applicable by other commentators. Even Raghunātha thinks that the fourth definition fails in an inference in which the sādhya or the substratum of the negation of the sādhya is strictly one individual. The same writer further says that the fourth definition does not apply to the correct inference, "It is non-smoky, as it is non-fiery".[42] But these defects disappear in the fifth definition and hence the necessity of the fifth-definition lies in the fourth definition being involved in rhe fallacy of narrowness. But we have seen that Mathurānātha anticipates these objections against the fourth definition and replies to them by interpreting the adjective "Sakala" (all), in the fourth definition, to be meaning not many, but the entire denotation, without any remainder and by taking the determinant of pervasiveness to be connoting non-determination of the negatum of the absolute negation characterising the substratum of the pervaded. Hence Mathurānātha's explanation of the necessity of the fifth definition should have been different from that of Raghunātha. But Mathurānatha does not state definitely the necessity of the fifth definition. Perhaps he has tacit agreement with Raghunātha, though he goes beyond the latter in his discussions on the definition. For the definition, taken as it is, is guilty of narrowness, as Raghunātha points out, and Mathurānātha has to add adjuncts to every term in it to extricate it from the charge of narrowness. Howevar, let us explain the fifth definition. We have invariable concomitance or vyāpti between the hetu and the sādhya when the hetu does not exist in whatever is other than an instance of the sādhya, In other words, when the objects, which are different from the substratum of the sādhya, are negated in the Hetu, we get Vyāpti. If h is the hetu and s the sādhya, then vyāpti is the non-existence, in h, of what is different from the substratum of s, i.e., the difference from the substratum of s is a thing which is not h. Let us see how this definition applies to an inference in which the sādhya is strictly one individual and secondly, to the inference, "It is non-smoky, as it is non-fiery". As an example of rhe first type of inference, let us take the inference, "It has the negation of "that" colour as it has the negation of "that" taste". The sādhya, in this case, is the negation or "that" colour. The difference from the substratum of the Sādhya is a thing which is the substratum of "that" colour. The substratum of "that" colour is negated in the Hetu, the negation of "that" taste. In the next place in the inference, "It is non-smoky, as it is non-fiery", the sādhya is the lake, red-hot iron-bar etc. The difference from the substratum of the sādhya is a thing which is the hill. The hill is negated in the Hetu "non-firey".

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[42] Vyāpti-pañcaka-Dīdhiti.

Now as to the significance of terms in the fifth definition Mathurnātha points out that, like the first definition, in the fifth definition also, there is the negation in the hetu, of all the objects which are different from the locus of the sādhya, if the definition is not to be too-wide.* Consider, for example, the fallacious inference, "It has smoke, as it has fire", The difinition applies to this inference, if all objects different from the locus of the sādhya are not negated in the hetu. For the lake, which is defferent from the substratum of smoke, is negated in the Hetu, fire, and this is the requirement of the definition. But if all objects different from the locus of the sādhya are to be negated in the hetu, then the definition is not too-wide. For all objecrs different from the substratum of the sādhya 'smoke' are not absent in the hetu 'fire'.

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*Māthuri, Tattvacintāmaṇi, Part II, P. 46.

But it moy be said that difference from the substratum of the sādhya implies all objects different from it and as such the proposition that the negation of objects different from the substratum of the sādhya should be the negation of all such objects is a tautology.

But this objection is not tenable, as the definition applies to the fallacious inferenee, "It hass moke, as it has fire", when the non-existence of the difference from the substratum of the sādhya 'smoke' and that of another particular object, say water (i.e., the non-existenee of two objeets or negata), are shown in the hetu 'fire'. But if it is definitely stated that the non-existence of the difference from the substratnm of the sādhya is the non-existence of a generic negatum then the question of the negation of two negata does not arise.

Thus the negation of objects different from the substratum of the sādhya, is the negation of a generic negntum in the fifth definition. But what is the implication of the term, "difference from the the substratum of the sādhya", in the fifth definition? This means, according to Mathurānātha, a negation whose negatum is determined, on the one hand, by reciprocal non-existence and on the other by the essence of the substratum, i.e., the substratum-hood, of the sādhya*i.e., whose negatum is the reciprocal negation of the substratum-hood of the sādhya. If the expression means only the diffrence from the substratum of the sādhya, then the definition turns to be too-narrow. Consider, for example, the inference, "It has fire, as it has smoke." The substrata of the sādhya fire, are the hill, yard, field, etc. The reciprocal negation of these may be the propositions 'the hill is not the yard', 'the yard is not the field, 'the yard is not the hill' and so on. The hill, therefore, may be available as the reciprocal negation of or difference from the yard which is also substratum of fire. Smoke is present on the hill. Hence the definition does not apply to a very common inference.

But if the negatum of the reciprocal negation of the substratum of the sādhya, is determined by the essence of the substratum of the sādhya, then we can speak only of the reciprocal negation of the substratum of fire as determined by the substratum-hood of fire, and not of the propositions, "The hill is not the the yard," "The yard is not the hill' and so on. And there is the reciprocal negation of the

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*Māthurī, Tattvacintāmaṇi, Part II, P. 46.

substratum as such of fire with the lake which is negated is smoke.* Thus the definition applies to the inference and is not guily of narrowness.

But just as the negatum of the difference from the substratum of the sādhya is to be determined by the essence of the substratum of the sādhya, so it is to be derermined by reciprocal negation; for the same negatum undetermined by the latter leads to the fallacy of narrowness. Let us again take the stock example of inference, "It has fire, as it has smoke". The negatum of the difference from the substratum of the sādhya as determined by its essence is the substratum as such of fire. The difference from the substratum as such of fire may be expressed by the proposition, "The substratum as such of fire does not exist", i.e., the difference from the substratum of fire may be the absolute negation of the substratum as such of fire.[43] For there are both the absolute negation and difference from the substratum of fire in water and hence here absolute negation and difference become the same. The hill again is charaterised by the absolute negation of the substratum as such of fire as the hill or any substratum of fire does nor exist on the hill. Smoke is present on the hill. Hence the definition does not apply to the inference, "It has fire, as it has smoke".

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*It may noted that in this case the substratum of the essence of the sādhya means the substratum of fieriness, i. e., fire, this, that and other fires are different instances of the universal or essence of fire and not hill or yard etc, which are the loci of *this* fire or *that* fire and the *other* fires. [This cuts out yard, hill, etc, which are not substrata of fieriness or, fire as a universal, but substrata or loci of particular fires in which fieriness as a universal inheres. It may be further noted that according to Nyāya the relatian of fieriness or essence of fire as a universal to particular fires is inherence (samavāya), while the relation of a particular fire to its locus such as the hill is contact or conjunction (saṃyoga).

[43] An absolute negation may be takn as reciprocal negation in the sense that the absolute negation of the essence of an object in a locus is equivalent to the reciprocal negation of that locus with that object. Thus if fire is the reciprocal negation of water, as in the judgment, "Fire is not water", then fieriness is absolutely negated in water, just as wateriness is absolutely absent in fire. (Svāvacchinna-bhinnabheda-rūpa atyantābhāva).

But the definition well applies to this infernce, if the negatum of the difference from the substratum of the sādhya is determined both by the essence of the substratum of the sādhya and by reciprocal negation. Let us explain this: The substratum of the sādhya is the substratum of fire. The difference from the substratum of fire, as determined by its essence and reciprocal negation, gives the reciprocal negation of the substratum as such of fire. The substratum as such of fire has reciprocal negation with the lake which is absent in smoke.

The significanee of the difference from the locus of the sādhya, in the fifth definition is now brought out and the import of the substratum of the sādhya remains to be explained. Such a substratum is to be taken, says Mathurānātha, in the relation determining the sādhya.* In the inference "It has fire. as it has smoke," the relation determining the sādhya is conjunction. If the sādhya 'fire' is taken in any other relation, say, inherence, then the definition does not apply to the inference. For the whole of fire is related to a part of fire in the relation of inherence and the difference from the part of fire is also the hill on which smoke is not absent. But the substratum of fire in the relation of conjunction is the hill, yard etc; and the difference from the hill, yard etc, is lakes etc; in the lake again smoke is absent. Thus the relation determining the substratum of the sādhya should be the same in which the sādhya stands to the Pakṣa.

We have explained the important portions of the commentary of Mathurānātha on the five provisional definitions of Vyāpti. But of all commentaries on the Tattvacintāmaṇi, the Dīdhiti of Raghunātha gained the widest publicity and popularity. The sub-commentaries on the Dīdhiti came to be exclusively read by scholars. Of these sub-commentaries, the Anumāna-dīdhiti-prasāriṇī of Kṛṣṇadāsasārvabhauma is the earliest. Its influence can be found in the sub-commentaries of Bhavānanda, Jagadīśa and Gadādhara. The Bhavānandī includes almost every thing of Kṛṣṇadāsa and makes its own additions. Jagadīśa included many passages from Kṛṣṇadāsa and Bhavānanda in his Jāgadīśī and Gadādhara has innumerable arguments from all the three incorporated in his Gādādharī. So we propose to explain Kṛṣṇadāsa's subcommentary on the Vyāpti pañcaka-dīdhiti of Raghunātha. But before we take up this let us restate the five definitions, so that we may find out their difference at a glance.

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*Māthurī, Tattvacintāmani, Part II,P. 47.

Let M be the hetu, P the sādhya and S the Pakṣa.

Then:—1. Sādhyābhāvavatavṛttitvam means: Where P is not, M is not, i.e., No M is not-P.

2. Sādhya-vat-bhinna-sādhyā-bhāvavatavṛttitvam is equal to No M is not-P where not-P means the anyonyābhāva or difference from P, i.e., M is not the other or reciprocal negation of P. M is the negation of otherness, here.

3. Sādhyavat-pratiyogika-anyonyā-bhāva-asāmānādhikaraṇyam is: M is such that it does not co-exist in any locus with the other of P, i.e., M is not in any other of P.

4. Sakala-sādhyābhāvanniṣṭha-abhāva-pratiyogitvam means, M is not wherever P is not. In other words no M is any case of not-P or M is the negation of all cases of not-P.

5. Sādhyavatanyāvṛttitvam means M is not where any other of P is, i.e., M is not any other of P.

Let us now pass on to Kṛṣṇadāsa's subcommentary on the Vyāpti-pañcaka-dīdhiti of Raghunātha.

The first provisional definition of Vyāpti is the non-existence, in the hetu, of the substratum of the non-existence of the sādhya. And Raghunātha says that as the definition does not apply to an inference in which the sādhya is of partial extensity in the locus of the hetu (avyāpya-vṛtti), the second definition has been devised. The second definition literally means that Vyāpti is the non-existence, in the hetu, of the locus of the negation of the sādhya. Raghunātha's interpretation of this is that Vyāpti is the non-existence, in the hetu, of the substratum of the negation of the sādhya, provided the negation of the sādhya characterises a substratum different from that of the sādhya. Here Kṛṣṇadāsa points out that this interpretation of Raghunātha sets aside the objection of Sārvabhauma who asserts that the expression "negation of the sādhya" is superfluous because it is sufficient if it is said that Vyāpti is the non-existence in the hetu of what is different from the substratum of the sādhya. Really the expression "the difference from the substratum of the sādhya" (which is added in the second definition) implies a specific negation of the sādhya qualifying a locus different from the locus of the sādhya. Again this difference from the substratum of the sādhya qualifies the negation of the sādhya and not the locus of the negation of the sādhya and therefore, the expression "negation of the sādhya" is not unnecessary.[44]

It may be objected against this interpretation of the definition that the definition does not apply to the inference, "It has the negation of either jar-hood or the conjunction of the jar and the cloth, as it has cloth-hood," because the conjunction of the jar is the negation of the sādhya, the jar is different from the locus of the sādhya, the cloth has the conjunction of the jar, and the cloth has the inherence of cloth-hood. The reply to this objection is that here the negation of the sādhya is a separate object and the negation of the negation of a single negatum is affirmation.[45]

The third definition is that Vyāpti is the non-co-existence of the hetu with the reciprocal negation of or difference from the substratum of the sādhya. Here Raghunātha says that this definition has been formulated, because there is no proof that in quality, action and substance the negations of conjunction are different.[46] In other words, in the inference, "It has conjunction, as it is a substance," the sādhya 'conjunction' may be absent in substance and is absent in quality and action and there is no proof that these negations are different. In this connection Kṛṣṇadāsa points out that it may be argued that there is not Avyāpti in the second definition, if it is said that Vyāpti is the non-existence of the hetu in the substratum of the negation of the sādhya, provided this negation of the sādhya qualifies the substratum different from that of the sādhya. But this argument is groundless, because in that case the expression "negation of the sādhya" becomes superfluous.[46] In other words, it is enough, if it is said that Vyāpti is the non-existence of the hetu in a substratum different from the substratum of the sādhya. But this is going

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44. Kṛṣṇadāsa, Anumāna-dīdhiti-prasāriṇī, P. 41.
45. Ibid, Vide also Jāgadīśī, Vol. I, P. 79.
46. Ibid.

against the (second) definition in which the expression "the negation of the sādhya" occurs. Bhavānand's comments on the incompleteness of the second definition are worthy of notice. The second definition is involved in Avyāpti, because the negation of conjunction, which exists in quality which again is different from the locus of the sādhya, exists also in substance (to consider the inference, "It has conjunction, as it is a substance"). Similarly, there is Avyāpti in the inference, "It has the negation of either jar-hood or the conjunction of the jar and ether, as it has ether-hood," because the jar is different from the locus of the sādhya, it has conjunction, which is the negation of the sādhya, and ether exists in it. It cannot be argued that the alleged Avyāpti does not arise, if the non-existence of the hetu in the substratum of the negation of the sādhya, which (the negation of the sādhya) qualifies the substratum different from that of the sādhya, is accepted, for in that case the expression "negation of the sādhya" becomes superfluous.[47]

The fourth definition is that Vyāpti is the state in which the hetu is the negatum of the negation qualifying all the substrata of the negation of the sādhya. Now Raghunātha says that this definition is necessary because the hetu may exist in a locus which is different from the pakṣa but in which the sādhya exists. In the inference, "The hill has fire, as it has smoke", the sādhya 'fire' not only exists in the hill, but also in the kitchen in which the hetu 'smoke' exists. Raghunātha further says that the term "all" qualifies both the substratum of the negation of the sādhya and the sādhya. Kṛṣṇadāsa says that the significance of the term "all" qualifying these two is to prevent Ativyāpti in the fallacious inference, "It has smoke, as it has fire." Here Ativyāpti occurs, as fire is the negatum of the negation qualifying water in which the sādhya 'smoke' is absent. But this Ativyāpti is obviated, if the term "all" qualifies both the substratum of the negation of the sādhya and the sādhya. But if the term "all" qualifies the negation of the sādhya, then there is Ativyāpti in the same wrong inference, as the negation of fire in this or that jar comes under some kind of negation of the sādhya.[48]

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[47] Bhavānandī Vol. I, P. 104.

It may be argued that the relation determining the sādhya should be the relation determined by which the sādhya should be negated. But this also does not improve the case, because there arises Ativyāpti. Consider the fallacious inference, "It has smoke, as it has fire." There is the negation of smoke in the relation of conjuntion in the generic attribute or universal which has again the negation of the conjuction of fire.

Thus the definition means that Vyāpti is the state in which the hetu is the negatum of the negation qualifying all the substrata of the negation of all the sādhya. But objection may be raised that there is Avyāpti in the inference. "It has existence, as it has a universal or generic attribute", because the generic attribute or universal is negated in quality which has the negation of specific existence other than that of quality and action.[49] As a reply Raghunātha says that the negation of the sādhya should have its negatum determined by the determinant essence of the sādhya. And for this there is not Ativyāpti in the wrong inference, "It has colour, as it has conjunction," though the hetu is the negatum of the negation qualifying the substratum which has the negation of the sādhya which is not determined by its determinant. There is also not Avyāpti in the inference in which the sādhya is *this* or *that* individual. Consider, for example, the inference, "It has all the virtues existing in *this* individual, as it is *this*".[50] Here the specific virtues of this individual are negated in some other individual which has the negation of the hetu.

Thus the sādhya as determined by its determinant is to be negated in the substratum in which the hetu is negated. Now these two negations should have their negata in the substrata opposed to those of these negations. And for this there is not Avyāpti in the inference, "It has monkey-conjunction, as it is this tree."[51] This also saves the definition from Ativyāpti in the fallacious inference, "It has this-tree-hood, as it has monkey-conjunction"[52] or in the fallacious inference, "It is earth, as it has monkey-conjunction."[53]

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[48] Anumāna-Dīdhiti-prasāriṇī, P. 42, Vide also Bhavānandī, Vol. I, P. 105.

[49] Ibid.

[50] Gādādharī, Vol. I, P. 151.

Just as the negation of the sādhya is to have its negatum determined by the determinant of the sādhya, so the negation of the hetu is to have its negatum determined by the determinant of the hetu and these two negata viz, the sādhya and the hetu should not be present in the substrata of their negations. And for this there is not Avyāpti in the inference, "It is a substance, as it has a specific existence" (pertaining to substance).[54] Nor there is Ativyāpti in the fallacious inference, "It has specific existence other than that of quality and action, as it is the substratum of the generic attribute." Here the sādhya, as determined by its determinant, and as existing in a substratum opposed to that of its negation, has non-existence in the generic attribute and the substratum of the generic attribute has not negation in the generic attribute.[55] It may be objected that in this wrong inference, the negation of the sādhya in quality has its negatum existent in it and therefore there cannot be any question of Ativyāpti in this wrong inference. But this argument has no weight, because in the inference, "It has monkey-conjunction, as it is this tree," Avyāpti does not occur, if the sādhya as determined by its determinant, and as existing in a substratum opposed to that of its negation, is negated in a locus in which the hetu, as determined by its determinant and as existing in a substratum opposed to that of its negation, is negated. Further without those modifications there is Avyāpti in the inference, "It has the negation of conjunction, as it is disjunction."[56]

The fifth definition is non-existence (in the hetu) of the diff-

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51. Ibid.
52. Jāgadīshī. Vol, I, P. 81.
53. Gādādharī, Vol. I, P. 151.
54. Dīdhiti.
55. Kṛṣṇadāsa, Anumāna-dīdhiti-prasāriṇī. P. 43.
56. Ibid, P. 43-44.

erence from the locus of the sādhya. This definition is necessitated, because there may be cases in which the term "all" does not qualify the sādhya (we have seen that according to the fourth definition the term "all" qualifies the sādhya). In fact, the fourth definition does not apply to an inference in which the sādhya is a single individual. Again according to the fourth definition the sādhya as determined by its determinant, is absent in a locus in which the hetu is absent. But if the sādhya, as determined by its determinant, is to be negated, then the adjunct "all" cannot qualify the sādhya.[57] So Raghunātha points out a second instance of Avyāpti in the fourth definition. Consider the inference, "It is different from God, as it has the knowledge whose feature has difference from God",[58] or the inference, "It is different from God, as it is the jar."[59] Here the Vipakṣa* (the object in which there is a definite non-existence of the sādhya) is a single individual and the fourth definition, with the term "all" qualifying the sādhya and the substratum of its negation, does not apply to it. But it may be argued that the term "all" here stands for completeness or pervasiveness. So Raghunātha cites a third instance of Avyāpti in the fourth definition. Take the inference, "It is non-smoky, as it is non-fiery." The generic negation of smoke-hood is non-smoke-hood and it being a singular term, the term "all" cannot qualify the sādhya in this case. Here non-smoke-hood is to be taken as the sādhya and not water which is also non-smoky, for if water is taken as the sādhya, then the inference becomes fallacious, the non-fiery being not necessarily water.[60]

Thus the fifth definition is the non-existence, in the hetu, of the difference from or reciprocal negation of the locus of the sādhya.

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[57] Ibid, P. 44. Vide. I, P. 108.

[58] Ibid.

[59] Bhavānandī. Vol. I, P. 108.

*Where sādhyābhāva (absence of sādhya) is niścita i.e., known for certain—a dissimilar instance ; A similar instance is the sapakṣa where the presence of the sādhya is niścita. The Pakṣa or the subject of inference is other than the sapakṣa or vipakṣa ; in its case the presence of the sādhya is uncertain or doubtful.

[60] Ibid.

Here we must accept the reciprocal negation of the locus-hood of the sādhya, as the blue jar is not other than the jar.[61] In other words, when the locus of the absence of the sādhya is the jar, the jar, as determined by jar-hood, should be different from the hetu, as the jar, so determined, implies, all jars. Here the question may be asked, what is that with which jar-hood is related? It may be argued that it cannot be said that relation obtains between jar-hood and the jar, because the jar is used as synonymous with jar-hood. Nor again there is relation between negation and jar-hood, because jar-hood exists in the blue, red, dark or any type of jar. But this argument is meaningless. The relation between the jar and its negation is, properly speaking, the relation between jar-hood and negation. In fact, though jar-hood is exemplified in this or that type of jar, yet there is no incongruity in thinking that relation obtains between jar-hood and negation. In the proposition, the ground is the locus of the negation of the jar, the negation of the jar has for its negatum jar-hood. Similarly, the negation of jar-hood has also for its negatum jar-hood.[62]

Thus in the negative proposition, "The jar is not on the ground," the subject is to be taken in connotation. According to some, the negatum of the negation of the jar is an unanalysable whole, even as the blue crystal has an unanalysable relation with the blue which inheres in it, because though the judgment, "The knowable jar does not exist," may be valid, yet the two negations of knowability and jar-hood, in the relation of attributiveness, are not valid. But according to the New School, every negation bearing the relation of adjectivity or viśeṣaṇatā to its locus has one negatum; the negation of each knowable object has its respective singular negatum; and when the negatum of a negation is determined by both knowability and jar-hood, it is an illusion to apprehend that this negatum is determined only by knowability.[63]

We have finished, by this time, our discussion on the five provisional definitions of invariable concomitance. It is now our task to explain how these five definitions do not apply to the Kevalānvayī inference. But before we take up this explanation, let us see what a Kevalānvayī inference means.

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[61] Dīdhiti,

[62] Kṛṣṇadāsa, Anumāna-Dīdhiti-Prasāriṇī, P, 45.

[63] Ibid, P. 45-46,

The term Kevalānvayī is defined by Gangeśa as follows:—Kevalānvayī means not being the negatum of an absolute negation of which instances are available (in experience)[64] i.e., where instances of agreement in absence are altogether lacking. If we take the inference "It is namable, as it knowable," the predicate "namable" is Kevalānvayī, because it is not to be found absent anywhere. We are now to see how the definitions are frustrated in this inference.

The first definition does not apply to the above inference for the following reasons: The first definition states that invariable concomitance is the negation, in the hetu, of objects having a substratum in which the sādhya is absent; but the sādhya in the inference, "It is namable, as it is knowable," is all pervading or universally present; hence the substratum of the negation of the sādhya, which is determined by the relation and essence determining it, is not available.

The second definition takes invariable concomitance to be absence, in the hetu, of a substratum which contains such a negation of the sādhya as characterises a substratum different from that of the sādhya. Now in the inference, "It is namable, as it is knowable," the substratum different from that of the sādhya is absurd, as the sādhya is universally present.

According to the third definition, Vyāpti is the non-co-existence of the reciprocal negation of the substratum of the sādhya with the hetu. But the question of the difference from or reciprocal negation of the substratum of the sādhya does not arise in the inference, "It is namable, as it is knowable", namability being completely pervasive.

The fourth definition asserts that invariable concomitance is the negation of the hetu in all the substrata of the negation of the sādhya. But the substratum of the negation of the sādhya is absurd in an inference whose sādhya is universally present and hence the definition does not apply to the inference, "It is namable, as it is knowable".

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[64] Tattvacintāmaṇi, Part II, P. 572.

Lastly, the fifth definition requires the difference from the substratum of the sādhya and as such does not apply to the inference, "It is namable, as it is knowable".

Chapter II

THE DEFINITIONS OF VYĀPTI GIVEN BY THE LION AND TI

(*Siṁha-Vyāghra Vyāpti-Lakṣaṇam*)*

Gangeśa has refuted the five definitions which take the negation of inconstancy to be the essence of invariable concomitance. Now he rejects two other definitions of Vyāpti. Accordiug to the first of these definitions, which is said to have been given by the Lion, Vyāpti as a condition of inference is the hetu not being the adhikaraṇa or locus of anything which has the character of not being samānāḍhikaraṇa, co-existent with the sādhya.[1] If H is the hetu and S the sādhya, then vyāpti is the non-existence, in H, of what is absent in the locus of S. In the inference "It has fire, as it has smoke", water is not co-existent with the sādhya 'fire' and the hetu 'smoke' is not a substratum of water. Hence smoke is the invariable concomitant of fire.

The second definition, given dy the Tiger, asserts that Vyāpri is sādhya-vaiyadhikaraṇya, anadhikaraṇatvam, i,e.,[2] the vyāpti of the hetu as a condition of inference is the hetu not being the locus or adhikaraṇa of anything possessing the character of being bhinna-adhikaraṇa with the sādhya i.e., possessing a location other than the location of the sādhya. If H is the hetu and S the sādhya, then Vyāpti is the non-existence, in H, of what abides in not-S. Water is different from the substratum of fire and in smoke, fish, moss, etc., which exist in water, do not exist. Hence smoke is the invariable concomitant of fire.

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*S. C. Vidyabhusana suggests that Lion and Tiger denote two Jaina Logicians, named, Ānanda Surī and Amara-Candra Surī who flurished at the beginning of the 12th Century A. D. (Vide History of Indian Logic, P. 208). Tradition, however, takes them to be two scholars of Mithila, called Śaśadhara and Manidhara.

[1] Tattva-cintāmaṇi, Calcutta, Part II, P. 49. "Sādhyāsamānādhikaranyānadhikaraṇatvam."

[2] Ibid,

The difference between the two definitions centres round the terms "asāmānādhikaraṇya" and "vaiydhikaraṇya". Though Gangeśa does not note any difference between the two, it may be pointed out that there is some difference still. Asāmānādhikaraṇya is abhāva of sāmānādhikaraṇya and it may be saṁsargābhāva or anyonyābhāva. But the second definition restricts this abhāva to vaiyadhikaraṇya or anyonyābhāva.

Now Gangeśa points out that both those definitions really mean the non-substratum-hood of the non-substratum of the sādhya. But taken in this sense the definitions do not apply to the inference, "It has fire, as it has smoke", for the non-substratum-hood of the sādhya may mean the reciprocal negation of some substratum of the sādhya as specfied by some attribute and not the reciprocal negation of the sādhya as such. Thus if fire is not taken as fire, we may say the hill is not the substratum of the kitchen-fire- But smoke exists on the hill. Hence the definitions fail.

Let us follow Raghunātha's comments on these definitions. In order that the second definition may not be a repetition of the first, Raghunātha says that the expresion "non-co-existence with the sādhya" (sādhyā-sāmānādhikaraṇya), in the first definition, should mean that whose locus is different from the sādhya.[3] But objection may be raised that there is Avyāpti in the inferenee, "The hill has fire, as it has smoke", because a substratum differenr from a specific fire is the substratum of a specific smoke.[4] Hence it is said again that Vyāpti occurs when that, whose substratum is not the substartum of the sādhya,[5] does not exist in the hetu, Thns there is not Avyāpti, because the substratum of a specific smoke is not the non-substratum of generic fire. Again objection may be raised that there is Ativyāpti in the fallacious inference, "It has smoke, as it has fire", because a particular jar, which is the non-substratum of smoke, does not exist in fire.[6]

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[3] Jāgadiśi, Vol. I. P. 86. Kṛṣṇadāia, Anumāna-dīdhiti-prasāriṇī, p. 46. Bhavānandī, Vol. I, P. 113. Gādādharī, Vol, I., P. 161.

[4] Jāgādīśi, Vol. I. P. 86.

[5] Dīdhiti and Jāgadiśi, Ibid.

[6] Jāgadiśi, Ibid,

As a reply to this objection, it it said that the expression "non-co-existence with the sādhya" also means the negatum of the negation of the co-existent with the sādhya i.e., the object which does not exist in the locus in which the sādhya exists.[7] And this meaning saves the definition from the alleged Ativyāpti, because the red-hot iron-ball does not co-exist with smoke, but is not negated in fire. Still it may be objected that there is Avyāpti in the inference, "It has fire, as it has smoke". For in the hill-fire or in the red-hot iron-ball, there is the negation of the kitchen and the kitchen and smoke exist together.[8] As a reply Raghunātha says that the expressin "non-co-existence with the sādhya" also means non-co-existence with every locus of the sādhya. Thus the entire substrarum in which fire is absent is, for example, water where smoke also is absent [9] and hence the allaged Avyāpti does not stand.[9]

Thus the definition of the Lion means the hetu being not-existent or absent wherever of the sādhya is absent. Here the sādhya is negated being determined by the relation determining it, i.e., the relation in which it exists in the Pakṣa. And for this there is not Ativyāpti in the fallacious inference, "It has colour, as it is eternity," though the hetu does not exist in ether in which colour does not exist in the relation of conjunction or inherence.[10] In other words, in this inference, the sādhya 'colour' bears time-relation to eternity the the Pakṣa. So if it is negated in the relation of conjunction or inherence, the question of Ativyāpti does not arise. Similarly, there is not Ativyāpti in fallacious inference, "It is the soul, as it has either soul-hood or eternity," though eternity is the determinant of the soul as conditioned by time-relation.[11] In other words, as the sādhya "soul-hood" is not determined by time-relation in this inference (the relation determining the sādhya here is inherence, soul-hood inhering in the

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7. Dīdhiti.
8. Bhavānandī, Vol. I. P. 114.
9. Dīdhiti.
10. Jāgadīśī. Vol. I. P. 87.
11. Gādādharī, Vol. I. P. 162.

soul), the co-esistence of the sādhya and the hetu in that relation is not to be taken into consideration.

Now the difference from the substratum of the sādhya is a thing which is the non-determinant of the existence of the sādhya and for this there is not Ativyāpti.[12] In other words, the definition of the Lion is not too-wide, because the sādhya is absent in a locus which is different from the locus of rhe sādhya, Consider the fallacious inference, "It has smoke, as it has fire". The red-hot iron-ball is different from the substratum of the sādhya 'smoke' and in the red-hod iron-ball fire is not negated. But objection may be raised that there is Ativyāpti, because the sādhya 'smoke' is absent in water in which the hetu 'fire' is absent.

The reply to this objection is that all the substrata of the non-existence of the sādhya should be taken into consideration and the absence of the hetu in every such substratum is Vyāpti.[13] Smoke is absent not only in water but also in the electric bulb and in the electric bulb fire is not absent. So the alleged Ativyāpti does not occur. Similarly, there is not Avyāpti, i.e, in-applicability to the correct inference. "It has existence, as it has substance-hood," because one of the substrata in which existence is absent is negation and in negation substance-hood is absent.

The definition of the Tiger means that the hetu is not the locus of the object abiding in a locus incompatible with the locus of the sādhya. Here also like the previous case all the substrata which are incompatible with the substratum of the sādhya are to be taken into consideration and the absence of the hetu in every such substratum is Vyāpti.[14]

Now both these definitions imply that the hetu is not the substratum of the non-substratum of the sādhya. This means the negation, in the hetu, of what is not the substratum of the sādhya. But this kind of definition is involved in Avyāpti. Consider an inference in which the sādhya is universally present (Kevalānvayī). There is

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12. Dīdhiti.
13. Ibid.
14. Jāgadīśī, Vol. I. P. 88.

Avyāpti in it, because the substratum which is not the determinant of the existence of the Sādhya i.e, a locus in which the sādhya is absent, is not available. Again in the inference in which the sādhya is specific, say the kitchen-fire, the substratum which does not determine the existence of the specific sādhya may not be negated in the hetu and the result is Avyāpti. There is also Ativyāpti in some cases.[15] Consider the fallacious inference, "It has specific existence, as it has a generic attribute." The substratum of specific existence is also the substratum of the generic attribute[16] and hence the substratum in which specific existence is negated is also negated in the generic attribute.

Again the substratum different from that of the sādhya (the definition of the Tiger contains this) may mean the difference or reciprocal negation of the substratum of the sādhya. And in that case (though, in the kevalānvayī inference, there is difference from the specific substratum of the sādhya) there is Avyāpti in the inference in which the substrata of the sādhya are many.[17]

According to Sārvabhauma,[18] the definition of the Lion means that the locus of the sādhya should be negated in the relation in which the hetu stands to the pakṣa (i.e, the relation determining the hetu), and the hetu should be different from the locus of this negation.[19] In the inference, "It has fire, as it has smoke," the relation in which the hetu 'smoke' stands to the pakṣa 'hill' is conjunction and so it is the relation determining the hetu. The hill, the locus of the sādhya 'fire,' is negated in the relation of conjunction in water and smoke is different from water. So smoke is the invariable concomitant of fire. But the parts of smoke are the substratum of smoke in the relation of inherence which is not the determinant relation of the hetu. So even if the locus of the sādhya is negated in the parts of smoke in the relation of conjunction there is no harm. Had the sādhya been negated in the locus of the hetu in the relation determining the hetu, then there would have been Avyāpti. Similarly, there is no harm even if smoke is negated in the locus of fire in the relation of inherence, as the relation of inherence is not the relation determining the hetu. In fact, the negation of the locus of the sādhya is available in the locus of the hetu in some relation which does not determine the hetu. But this kind of negation is of no interest to us.

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[15] Dīdhiti.

[16] Jāgadīśī, Vol. I. P. 89.

[17] Dīdhiti.

[18] The reference here is to Vāsudeva Sārvabhouma Vide Jāgadīśī, Vol. I. P. 89 (Sārvabhoumamatamutthāpayati).

[19] Dīdhiti and Jāgadīśī, Vol. I, P. 91.

It may be argued that the sādhya and the hetu co-exist in the same locus even in a fallacious inference. When we consider the wrong inference, "It is a substance, as it has existence," the sādhya 'substance-hood' and the hetu 'existence' inhere in substance and inherence is the relation determining the hetu.[20] The reply to this is that in a fallacious inference in which the sādhya does not exist in every substratum of the hetu (and here the sādhya substance-hood exists in substance and not in quality and action which are also the substrata of the hetu*) the locus of the sādhya is absent in the relation determining the hetu in the locus in which the Sādhya is absent.[21] In fact, there is the perception of the negation of the co-existence of substance-hood and existence in quality.[22] For existence inheres in substance, quality and action and existence in quality and action is not co-present with substance-hood. Here it must be remembered that the inference is fallacious because the sādhya is not present in every substratum of the hetu and the fact that the sādhya is absent in the relation determining the hetu in the locus in which the hetu is present, proves that the hetu is not here the invariable concomitant of the sādhya. But it cannot be said for this that there is Avyāpti in the inference, "It is a substance, as it has specific existence other than that of quality and action," for the specific is additional to the generic.[23] In other words, here quality and action are not the substrata of the hetu and so there is no Avyāpti. If again here specific existence is not regarded as additional to existence, then also existence and the fact of being other than quality and action are co-present in substance and hence in the self-relation of the type of determinant-hood (avacchedakatākhya-svarūpa-sambandha) there is the co-presence of these two in substance.[24]

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[20] Jāgadiśī, Vol. I. P, 92.

*It may be noted that existence as the highest generality is related by the relation of inherence or samavāya to three amongst seven Padārthas or ultimate knowables of Nyāya-Vaiśeṣikas, viz, substance, quality and action. All the seven Padārthas, have being of a different kind, viz svarūpa-sattvā (there sattvā being their svarūpa or content & nothing else). But substance, quality & action have sattvā-yogena-sattvā or being through subsumption under the universal of being besides svarūpa-sattvā.

[21] Dīdhiti. and Jāgadiśī, Ibid.

[22] Dīdhiti,

Lastly, in the Kevalānvayī inference, there is Avyāpti according to the second definition,[25] as a substatum oppesed to that of the sādhya is not availlable in it. But if we follow the first definition then there is no Avyāpti even in the Kevalānvayī inference. Consider the inference, "All objeets are namable, as they are knowable". The sādhya here is namability. Its locus is the namable. The relation determining the hetu is identity. The absence of the namable in the relation of identity in the knowable is absurd. Hence the knowable is the invariable concomitant of the namable.

Now Raghunātha thinks that this view of Sārvabhauma is open to criticism. The perception of the negation of the co-existence of substance-hood and existence in quality is like the perception of the negation of the co-existence of earth-hood and substance-hood in quality. But it does not follow from this perception that there is not the co-existence of quality and earth-hood in substance- As a matter of fact, there is the perception of the negation of the co-existence of substance-hood having specific existence with quality in a type of self-relation which shows that by their own nature quality and substance having specific existence do not co-exist (Nirūpakatākhya-svarūpa-sambandha).[26] But there is not the non-existence of substance in existence, as there is the universal perception that existence, does not possess the negation of substance and that the negation of substance is negated in existence. This perception is contradicted, if substance is taken to be negated in existence. But if substance is not negated in existence, then there is Ativyāpti, as in the fallacious inference, "It is a substance, as it has existence," there is not the absence of the existence of substance in existence.

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[23] Dīdhiti.

[24] Jāgadīśī, Vol. I. p. 93.

[25] Dīdhiti.

[26] Jāgadīśī, Vol. I, P. 95

It may, however, be argued that from the perception of the negation of monkey-conjuntion in the root of the tree, we do not have the perception of the negation of monkey-conjunction in the tree, but it is quite possible that the negation of conjuntion (of an object) may hold of both the tree and its root.[27]

As a reply it is said that there is the perception of the conjunction of the monkey on the tree and also there is the perception of its negation in the root. So these two viz., conjunction and its negation, exist together in the tree in its two parts.[28]

Raghunātha points out other defects in the definitions. Consider the fallacious inference, "It has mindness or mind-hood, as it is an atom"[29] (here mind-hood means the constituent essence of every mind; the inference again is fallacious because every atom is not the constituent of mind). In this inference, both the sādhya and the hetu are supersensuous. Now here the negation of the co-existent of the sādhya is not perceived in the hetu (because both mind & atom are supersensuous) and hence it may be said that the sādhya co-exists with the hetu. Thus there arises Ativyāpti. Similarly, there occurs Ativyāpti in the fallacious inference, "It is heavy, as it ts the negation of ether",. for the negation of the heavy is not perceived in the locus of the negation of ether.[30]

But it may be argued that the locus of the negation of ether has the negation of heaviness, because the inference, "It has the negation of colour, as it is the substratum of the negation of heaviness", is valid.[31]

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27. Ibid.
28. Dīdhiti.
29. Jāgadīśi, Vol. I. P. 96. Vide also Dīdhiti.
30. Kṛṣṇadāsa, Anumānadīdhiti-Prasāriṇī, p. 51.
31. Bhavānandī, Vol. I, p. 124.

The reply to this argument is that in this inference the negation of or difference from the substratum of the negation of colour brings something limited and (so) perceptible, where as the negation of the heavy is not the limited and so not perceptible. Hence the alleged Ativyāpti stands. Further there is Avyāpti in the inference, "Eternity has the cow in time-relation, as it has cow-hood", because eternity is the locus of the hetu in time relation and in eternity there cannot be the absence of time in time relation.[32]

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[32] Didhiti and Jāgadīśī, Vol. I, p. 96.

CHAPTER III

NEGATION DETERMINED BY THE ESSENCE OF AN OPPOSED SUBSTRATUM

(*Vyadhikaraṇadharmāvacchinnābhāva*)

Sondaḍa, a scholar preceding Gangeśa, thought that the negation whose negatum is determined by an essence abiding in an opposed substratum is logically valid and universally present.[1] We may make a proposition that the cloth does not exist as the essence of the jar. Here the cloth does not exist in the character of jar-hood and this negation is everywhere valid i.e., it holds not only where the cloth is, but also in every other place. A cloth does not exist as a jar either in itself or anywhere else. Now if this view of Sondaḍa is accepted then the first provisional definition of Vyāpti, discussed in Chapter I, will apply also to the Kevalānvayī inference. The objection was that in this inference no instance of the absence of namability (the sādhya) being available, the definition of vyāpti as *sādhyābhāva-vatavṛttitvam* does not apply. But if the abhāva or absence of the sādhya in some character other that its own is admitted as all pervasive as is contended by Sondaḍa, according to his definition of vyadhikaraṇa-dharmācchinna abhāva, the question of non-availability of sādhyābhāva, does not arise.

Gangeśa is opposed to Sondaḍa's conception of this kind of negation. He says that if such a negation is possible, then the jar can not be a case of non-co-existence of knowability and namability as would follow from Sondaḍa's view. Knowability, in the character of namability, may be absent in the jar, yet the jar is a case of the co-exsitence of namability as such and knowability as such. As a matter of fact Sondaḍa's conception would lead to the admission of the co-existence and non-coexistence of knowability and namability in the jar which would be manifest self-contradiction. Again namability as determined by the essence and relation determining it is not absent in the jar. And this being the case, vyāpti is the state in which the hetu is not copresent with the negation of the sādhya which is determined by its own essence and by the relation in which it stands to the pakṣa.[2]

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[1] Vide, Mathurānātha's Tattva-cintāmani-Rahasya, p. 53. Tattvacintāmaṇi, Part II, Calcutta.

But this definition does not contain the negation of the sādhya through some essence which does not belong to it and hence the negation of namability through non-namability is absurd. Further the essence, which does not abide in the object negated, is not its determinant, as such an essence is not perceived there. In fact, to say that the jar is negated as the essence of the cloth is as unmeaning as the proposition that the hare-horn does not exist in the cow, for the proposition, the hare-horn does not exist means that there is no horn in the hare.

Raghunātha's comments on this Chapter of Gangeśa are marked by extra-ordinary critical ability. He discusses here fourteen definitions of Vyāpti* which have been the occasion of a good deal of controversy among the specialists on the subject. Let us try to explain Raghunātha's comments on this question.

It is said that in the Kevalānvayī inference, "All things are namable, as they are knowable," namability is absent, i.e negated in the jar in the character of a substrate in which the inherent inheres. But objection may be raised that in the Kevalānvayī inference, "It is knowable, as it is namable," the negation of the sādhya is not available.[3] The reply of Raghunātha[4] to this objection is that just as the negation of non-existence in the character of existence holds everywhere and so also of existence in the character of non-exinstence, similarly, the negation of the knowable holds everywhere in the character of the non-knowable.

But it may be objected that though existence, as non-existence, or vice versa, is negated universally, yet every knowable may not be so negated.

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[2] Tattva-cintāmaṇi. p. 55 (Iti-cettarhi Tādṛśa-sādhyābhāvasāmānādhikaraṇyābhavo Vyāpti). Vide also Māthurī Ibid p. 57.

*For a symbolical representation of these fourteen definitions, see Chapter IX

[3] Jāgadīśī, Vol. I. p. 99.

[4] Dīdhiti.

The reply is that since the negation of non-fire as fire holds everywhere, it must be so in the case of the knowable as non-knowable.

It may be argued that it is a fact that the knowable does not exist in water as fire. But here we get only the negation of fire as knowable and not of the knowable in general.[5]

Raghunātha points out in reply that ether-hood as a knowable inheres in ether in the relation of inherence. Ether-hood does not abide in ether in any other relation such as time relation (Kālika sambandha) or contact relation (saṁyoga). Therefore the absence of ether-hood in any relation other than the relation of inherence, for example, in such relation as the relation of time or the relation of contact, holds good universally.

Again with the sādhya as a knowable in time relation, the sādhyābhāva will have to be the negation of the knowable in time relation. Therefore with ether-hood as a knowable in time relation as the sādhya, the sādhyābhāva will have to be the negation of ether-hood only in the relation of time. Hence it will be the negation of a particular knowable only in a particular relation and cannot be taken as the negation of all knowables in all relations, i.e, of knowablity in general.

In reply to this Raghunātha points out that since the relation of cloth-hood or jar-hood to its substrate is inherence and not conjunction, no knowable can be related to jar-hood or cloth-hood in the relation of conjunction. Therefore the negation of knowables in the relation of conjunction to cloth-hood or jar-hood holds for all knowables without exception.

By criticising this kind of negation Gangeśa says, as we have found, that the logical outcome of this negation is the definition—Vyāpti is the state in which the hetu does not co-exist with the negation of the sādhya in which this type of negation has not any place. But it may be contended that considering the negation of inconstancy or absence of exception (Avyabhicaritatvam, vide Chapter I) to be the essence of Vyāpti, there can be a definition of Vyāpti in which the negation of an object in the character which is the essence of another object has a place. The following is such a definition: Vyāpti is the co-existence of the hetu with every negation whose negatum co-exists with it and is the determinant of the essence which determines the sādhya and in which the sādhya pervades the hetu (This is a definition of Raghunātha himself).[6]

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[5] Vide, Jāgadiśī, Vol. I.p. 99-100.

In plain language, the sādhya as such pervades the hetu. When the sādhya as such is negated in the character which is the essence of another object, its negation holds good universally. The peculiar nature of such negation is that the object negated and its negation are co-present in the same locus. The negation of the sādhya 'fire' through jar-hood characterises the hill on which fire is present. The hetu 'smoke' again is present on the hill. Hence the co-existence of smoke with fire is vyāpti, though smoke may co-exist also with the negation of fire in the same locus in some character other than the character of fire, i.g, in the character of jar-hood. Again in the Kevalānvayī inference, "All things are namable, as they are knowable," there is the negation of the namable through jar-hood in every thing and also the presence of namability in every thing and every thing is knowable. Thus on the theory that a thing is negated through the essence of an opposed substratum, we get no exception of the hetu knowable being a namable and so there is Vyāpti between them. Similarly, there is no Ativyāpti in the fallacious inference "It is both elementary and finite (gross), as it is finite." For though the negation of a duality (of objects), through a different essence, may have its negatum co-existent with it, yet the sādhya as such and its negation are not copresent in mind. In other words, when the sādhya as such and its negation (through a different essence) co-exist in every substratum in which the hetu is present we have vyāpti. Now the negation of the elementary and the finite, through some other essence, no doubt characterises the mind; but the mind being atomic and not gross or finite, has neither the sādhya as such nor the hetu existing in it. Likewise the jar at the time of its origind is not gross and hence the sādhya as such does not abide in it.[7]

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[6] Dīdhiti: 'Yatsamānādhikaraṇāḥ sādhyatāvacchedakāvacchinna-vyāpakatāvacchedaka-pratiyogitāka yāvanto' bhāvāḥ pratiyogisamānādhikaraṇāstatvam.

[7] Jāgadīśī, Vol. I. p. 106.

But it may be argued that the sādhya as such need not co-exist with its negation (through an opposed essence), as it is sufficient, if it is said that Vyāpti is the co-existence of the hetu with all the negations whose negata co-exist with them.[8]

But there arises the fallacy of asambhava (i.e the definition applies to no inference), if Vyāpti is defined in this way. For there is the negation of cow-hood, through some opposed essence, everywhere, but cow-hood does not exist everywhere, cow-hood inhering only in the cow. Again in the inference, "It has fire, as it has smoke," there is the negation of a specific fire, say the kitchen fire, through some other essence, on the hill, but the kitchen-fire does not exist on the hill.[9] Hence when the entire sādhya as such co-exists with its negation, the co-existence of the hetu with this negation is Vyāpti. Thus in the inference, "It has fire, as it has smoke," fire is negated through non-fire on the hill on which fire as well as smoke exists.

But this hetu again should exist in the substratum of this negation in the relation which determines it. And on account of this there is no Avyāpti in the inference, "It is the self, as it has knowledge in the relation of inherence." For though the jar has the negation of the self and has not at the same time the existence of the self, yet the hetu 'knowledge' is negated in the jar in the relation of inherence which determines it (knowledge existing on the jar in the relation of Viṣayatā i.e objectifying).[10]

But objection may be raised that there is Ativyāpti in the fallacious inference, "It has earth-hood, as it is either eternity or the half of a jar." For the hetu 'eternity' is determined by time relation and in this relation it exists in the substratum which has both the negation and existence of the sādhya in time relation.[11]

The reply of Raghunātha to this is that the relation inwhich the sādhya pervades the hetu (Sādhya-vyāpakatāghataka-sambandha) should be the relation in which it should exist in the substratum of its negation (through an opposed essence).[12] Now in the above inference the sādhya 'earth-hood' ought to pervade the hetu in the relation of inherence (earth-hood being a universal) and not in time relation and so the alleged ativyāpti does not stand.

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[8] Ibid.

[9] Dīdhiti and Jāgadīśī. Vol. I, p. 107.

[10] Dīdhiti.

[11] Dīdhiti.

Similarly, there is no Avyāpti in the inference, "It has the general negation of colour, as it is the earth-atom", because in complete dissolution (Mahāpralaya) or at the time of origin, there is the negation of colour in the relation determining it.[13] In other words, the general negation of colour is determined by self-relation (svarūpa-sambandha). This general negation of colour is negated through some opposed essence, say colour-hood. But the substratum which is qualified by this general negation of colour in self-relation and also by its negation (through colour-hood) is complete dissolution in which the earth-atom exists. And as there is no sensuous perception of the general negation of colour in the atom existing in complete dissolution, we can easily infer that colour has both negation which is destruction and antecedent negation in the earth-atom which exists even in complete dissolution. Indeed the knowledge that there is no red colour in the black is not the same as the knowledge that the red colour does not exist, as in the red colour of the present moment there is the knowledge that the past red-colour (i.e. the red-colour that has been destroyed) and the future red colour (i.e., that red-colour that will come into existence) do not exist. Thus there are the antecedent negation of the future red-colour and destruction of the past red colour in the red colour of the present moment. But the negation of the red in the black is neither a destruction nor an antecedent negation. There is a reciprocal negation between the two.

Thus the relation in which the sādhya is pervasive (vyāpaka) should be the relation in which it should exist in the substratum of its negation (through and opposed essence). Now there should be this co-existence of the sādhya and its negation in a locus in which the hetu is present.[14] In other words, the subtratum which is determined by the relation and essence determining the hetu and which is qualified by the nagation, through an opposed essence, of the sādhya should be the substratum in which the sādhya should exist (in the relation determining it) along with its negations through opposed essences.[15] And on account of this there is not Ativyāpti in the fallacious inference, "when there is cow-hood, there is the cow",[16] though in time there are the existence of the cow as also the negation of the cow through cow-hood as well as through some opposed essence. For dissolution has the hetu 'cow-hood' (i.e., cow-hood exists even when there is dissolution) but not the co-existence of the cow and its negation.[17]

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[12] Ibid.

[13] Dīdhiti.

But if it is argued that there is no proof that the universal, cow hood, exists in dissolution in time relation and that the inference, "when there is cow-hood, there is the cow", is a valid one, then we may take another inference which is undoubtedly fallacious, and show that the definition does not apply to it. Consider, for example, the fallacious inference, "where there is time, there is generated substance or non-existence of dissolution". In dissolution there is the hetu 'time', but neither generated substance, nor non-existence of dissolution.

It has been said the negation of the sādhya, through the essences of an opposed substratum, should qualify the substratum of the hetu. This adjunct of the substratum of the hetu saves the difinition from Avyāpti in the correct inference, "It has the negation of monkey-conjunction,[18] as it has knownness (meyatva)" though monkey-conjunction, the negation of the sādhya, has non-existance in all the substrata of the hetu (This inference is correct, because there is the negation of monkey-conjunction in every object. The object on which the monkey is present has its non-existence in the part in which it is not present, while the object in which it is absent has its complete non-existence). In other words, the negation of the negation of monkey-conjunction, through an opposed essence, qualifies every object and every object has the non-existence of monkey-conjunction. So the definition applies to this inference.

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[14] Didhiti

[15] Jāgadīśī, Vol. I. p. 115.

[16] The inference is fallacious, because cowhood as a generic attribute or universal is permanent and is not destroyed even indissolution, but the cow is transitory.

[17] Didhiti.

[18] According to the Old School, substance can never have the negation of conjunction as such, but can have the negation of monkey-conjunction. Hence in this inference the negation of monkey conjunction is the sādhya. The New School, however, thinks that there can be the negation of conjunction

But objection may be raised that the *negation* of the negation, in water, of cow-hood is the same as the negation of smoke, when it has the non-existence of smoke in it.[19] For the negation abiding in the locus of the negation of a negation is also the locus.[20] The negation of the negation of cow-hood has for its locus cow-hood. Now this negation of smoke is the same as the negation of negation, in water, of cow-hood. Hence smoke is equivalent to the nagation of cow-hood. But the negation of cow-hood is negated, through an opposed essence, in the substratum of fire and at the same time it abides in the locus of fire. So smoke is negated, through an opposed essence, in the substratum of fire and also exists in the same. The result is that the definition applies to the wrong inference, "It has smoke, as it has fire."

The reply of Raghunātha[21] to this objection is that the negation of the negation, in water, of cow-hood is the negation of water and not the negation of smoke, for in water there is the perception of the negation of cow-hood.

Thus considering the negation determined by the essence of an opposed substratum to be valid, there can be a definition of Vyāpti which contains such a negation. And this definition, as we have seen, is the co-existence of the hetu with every negation whose negatum is the entire sādhya and co-existent with it. But according to this definition we get the negation of the namable, when we

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as such even in a substance, as a distant substance is not conjoined with another distant substance.

[19] Jāgadīśī, Vol. I. p. 118.

[20] Ibid. (Abhāva-pratiyogikasya abhāvādhikaraṇakābhāvasyādhikaraṇa-svarūpatvāt).

[21] Dīdhiti.

consider the Kevalānvayī inference, "It is namable, as it is knowable". Hence Gangeśa says, points out Raghunātha, that the essence which does not abide in the object negated is not its determinant. Thus namability cannot be negated through its opposite, as the opposed essence does not determine it.

However, taking the negation determined by the essence of an opposed substratum to be valid, for the time being, Raghunātha formulates the definition of Vyāpti just explained. But it may be said that even in the absence of the device of Vyadhikaraṇa-dharmāvacchinna-abhāva, the definition of Vyāpti as Sādhyābhāvavatavṛttittvam can be shown to be valid in the case of the Kevalānvayī inference, if we have recourse to the specification of the sādhya by reference to a specific content such as jar-hood. Thus namability as the name of jar-hood is negated in the cloth just as contrariwise knowability is also negated as jar-hood, as a knowable. Thus we have the co-absence of the sādhya and the hetu illustrated in the namables and knowables, jar-hood and cloth.

Raghunātha points out in reply that the device of particularising the sādhya with a view to making the definition of Vyāpti applicable to the kevalānvayī inference, does not fulfil the requirements of the case and we have to fall back on Vyadhikaraṇa-dharmāvacchinna abhāva as the only means of covering the case of Kevalānvayī inference. For in the ordinary inference, "It has fire, as it has smoke', the sādhya 'fire' has to be taken as such, as only fire as such has a pervasive character. If we take fire as a particular fire such as kitchen-fire it is obviously non-pervasive of all smoke. The kitchen-fire for example is not present in the hill-fire (and does not co-exist with the hill-smoke) nor is it similarly present in the yard-fire etc. It is only fire as such as also the absence of fire in some character other than fieriness, that is present in all cases of smoke. Therefore the sādhya has to be taken without limitation or qualification to ensure correct inference. Hence under this condition the only way to cover kevalānvayī inference and make the definition of Vyāpti applicable thereto is by the device of vyadhikaraṇa-dharmāvacchinna-abhāva.*

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*Dīdhiti—Yat samānādhikaraṇānām sādhyatā-vacchedakāvacchinna-vyāpaktāvacchedaka-rūpāvacchinna-pratiyogitākānām yāvadabhāvānām pratiyogitāva-

After this Raghunātha gives three definitions of Cakravartti.[22]

1. The hetu is in vyāpti relation to the sādhya, when it is samānādhikaraṇa or co-existent with that which is determined by that determinant of the sādhya or probandum which is non-determinant of the negatum of the sādhyābhāva which is pervasive of all places where the hetu may be found (Vyāpyavṛtteḥ hetusamānādhikaraṇasya sādhyābhāvasya pratiyogitāyāḥ anavacchedakaṁ yat sādhyatāvacchedakaṁ tadavachinna-sāmānādhikaraṇyam).

2. The vyāpti of the hetu with the sādhya is sāmānādhikaraṇya or co-existence with all that is avacchinna or determined by that avacchedaka or determinant of the sādhya which is the non-determinant of any case of what is samānādhikaraṇa or co-existent with the pratiyogī or negatum of the abhāva or absence which is pervasive of all that is samānādhikaraṇa or co-existent with the hetu (hetusamānādhikaraṇasya vyāpyavṛtteḥ abhāvasya pratiyogitāyāḥ sāmānādhikaraṇyena anavacchedakaṁ yat sādhyatāvacchedakaṁ tadavacchinna-sāmānādhikaraṇyam).

3. Vyāpti of the hetu with the sādhya is co-existence with all that is avacchinna or determined by that determinant of the sādhya which is the non-determinant of all that is co-existent with the pratiyogī of the abhāva which characterises all places of the hetu but whose ptatiyogī as vyadhikaraṇa characterises or belongs to places other than the place of the hetu (hetusamānādhikaraṇasya pratiyogivyadhikaraṇasya

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cchedakāvacchinna-sāmānādhikaraṇyam tattvam: When the substrata of the Hetu are characterised by all the negations whose negata as determined by the nature which is the determinant of the pervasiveness of the sādhya co-exist with them, we have vyāpti. This is the second definition of Raghunātha. We have given above its significance. The difference between this definition and the previous one is that this definition emphasises that the sādhya as such should be taken to be negated in the character of some object other than the sādhya and that a specific instance of sādhya should not be taken to be negated. The result is that Vyadhikaraṇa-dharmāvacchinna-abhāva is unavoidable in the Kevalānvayī inference in determining vyāpti as explained above.

[22] Cakravartti lakṣaṇamāha kecittviti, Jāgadīśī, Vol. I. p. 123. This Cakravartti is perhaps Śrinātha Bhattācārya Cakravartti, the uncle of Vāsudeva Sārvabhauma.

abhāvasya pratiyogitāyāḥ sāmānādhikaraṇyena anavacchedakaṁ yat sādhyatāvacchedakaṁ tadavacchinna-sāmānādhikaraṇyam.

The first definition means that when speaking of vyāpti as the co-existence of the hetu with the sādhya, the determinant of the sādhya should bc taken as its own intrinsic determinant and not as a determinant of any thing other then the sādhya. Thus when vahni or fire is the sādhya, fire is to be taken as determined by fieriness and not as determined by wateriness or any essence other than that of fire. For example, fire, in the character of wateriness or jar-hood is absent even in fire, just as it is absent in all places other than fire. Let us see how this definition applies to the inference, "It has fire, as it has smoke". The sādhya 'fire' has pervasive negation, through jar-hood, in the substratum of smoke. But fire-hood does not determine fire as jar-hood. Hence the co-existence of smoke with fire, as determined by fire-hood, is Vyāpti.

Jagadīśa explains this definition in detail. In a fallacious inference the daterminant of the sādhya determines the negatum of the negation abiding in the locus of the hetu, of the generic sādhya and hence there is no Ativyāpti. Consider the wrong inference, "It has smoke, as it has fire". The negation of the generic smoke abides in the red-hot iron-ball which is a substratum of the hetu. But smoke-hood is also the determinant of the smoke which is negated in the red-hot iron-ball. Hence there is not Ativyāpti.

Again in the correct inference, "It has monkey-conjunction, as it is this tree", there being monkey-conjunction in a part of this tree, the pervasive nagation of the sādhya is spoken of. There is pervasive negation of the sādhya 'monkey-conjunction', through inherence, in the whole tree. But conjunction is not inherence. Hence there is Vyāpti between this-tree and monkey-conjunction.

In the next place, when we consider the inference, "It has fire, as it has smoke", the jar may be supposed to be negated, through fire-hood, in the substratum of smoke and so it is said that the sādhya should be negated (through an opposed essence) and that this negation should be completely extensive in the locus of the hetu. Here the sādhya whose negation (through an opposed essence) pervades the substratum of the hetu, should be determined by the relation determining the sādhya. And for this there is not Avyāpti, even through fire is negated in the locus of smoke in the relation of inherence and fire-hood is the determinant of this fire. In other words, in the inference, "It has fire, as it has smoke", the sādhya 'fire' is determined by the relation of conjunction and hence there is not Avyāpti even if fire-hood determines the fire which is negated through the relation of inherence.

Lastly in the first definition the sādhya is negated, through an ineompatible relation, in the locus of the hetu, and in that locus the sādhya also exists. Here the negation of the sādhya has its negatum co-existent with it. And this saves the definition from Avyāpti. Consider, for example, the inferenec, "It is namable, as it is knowable". Here the negation of the namable is not a negation whose negatum does not co-exist with it. In other words, the namable being universally present, it cannot be negated as namable, but can de negated, through some opposed essence, and in that case the namable and its negation co-exist.

In the second definition the negation (through an opposed essence) of a negatum is completely extensive in the locus of the hetu, the determinant of the sādhya does not determine this negatum through co-existence (i.e., the determinant of the sādhya does not co-exist with that of the negatum which is negated, through an opposed essence, in the locus of the hetu) and the sādhya is specified by this determinant co-exist with the hetu. But the question may be asked: What is the necessity of the second definition? According to one particular view negations which are determined in the same way are the same.[23] And according to this view, the negation of fire through jar-hood, being the same as the negation of the jar through fire-hood, the negation of the sādhya 'fire' co-exists with the hetu 'smoke' and fire-hood determines this fire. The result is that there is Avyāpti according to the first definition. To avoid this Avyāpti the second definition has been devised. Thus following this second definition, the jar is negated, through an opposed essence in the locus of smoke, fire-hood does not determine jar-hood through co-exist-tence (i.e., fire-hood and jar-hood do not co-exist) and fire, as determined by this fire-hood, co-exists with the hetu 'smoke'.

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[23] Vide Jāgadīśī, Vol. I. p. 124) Samaniyatābhāvaikyamate niruktimāha hetusamānādhikaraṇasyeti). Vide also Gādādharī, vol. I. p. 230 (Samaniyatābhāvai-kyamatābhiprāyena cagrimaṁ lakṣaṇam). Vide also Kṛṣṇadāsa, Anumāna-dīdhiti-prasāriṇī p. 70. (Samaniyatābhāvānāmaikyamate lakṣaṇamāha) Vide also Bhavānandi p. 164.

But what again is the necessity of the third definition? According to Jagadīśa, in the inference, "It has fire as it has smoke", the negation[24] of fire and smoke exists, through fire-hood, in the substratum of the hetu "smoke" and smoke and fire are determined by fire-hood through co-existence and as a result there is Avyāpti to remove which the third definition has been formulated.

According to a second view, the pervasive negation which is to co-exist with the hetu, in the second definition, is logically absurd in the case of specific negations and hence the third definition has been propounded.[25]

Bhavānanda thinks that there is Avyāpti in the infernce, "It has the negation of the negation of ether as determined by time relation, as it is the self" because the negation of ether (through an opposed essence), which is the negation of the sādhya, has an unconditioned existence and the determinant of the negatum of this negation is the determinant of the sādhya. To do away with this Avyāpti the third definition is necessary.[26].

The third definition of Cakravartti means that the negation abiding in the substratum of the hetu should not have its negatum existing there and that the determinant of the sādhya should not determine this negatum-hood through co-existence. The negation of the jar characterises the hill, the locus of smoke ; the jar does not exist on the hill and fire-hood does not determine jar-hood through co-existence. Hence the co-existence of smoke with fire is Vyāpti.

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[24] Jāgādīśī, vol. p. 124.

[25] Ibid. p. 125,

[26] Bhavānandī, vol. I. p. 164. Vide also Gādādharī, vol. I, p. 230. Gadādhara thinks that Avyāpti in this inference can be avoided if some conditions are attached to the second definition. But as this is cumbrous, the third definition has been added. This inference is correct, because both ether and soul are all pervading (bibhu).

Jagadīśa raises here an interesting point. It is said, in this definition, that the negatum in the locus of the hetu should have a substratum opposed to that of its negation. But here the opposed substratum-hood of the negatum of the negation, co-present with the hetu, is not practically different from the common substratum-hood of this negation and its negatum.[27] For the negations, determined in the same way, being the same, the negation of the jar is equivalent to the negation of the knowable in general through jar-hood and this negation and its negatum, viz, the knowable, abiding in the same substratum, the negatum of the negation abiding in the substratum of the hetu has not a different substratum. In view of this difficulty, the negatum whose negation abides in the locus of the hetu, but which itself does not exist there, should mean the negatum different from all negata which are determined by the relation determining the sādhya and which exist in all the substrata of the hetu, which are again determined by the essences that exist in the substrata of these negata and determine them.[28] The determinant of the sādhya should not determine such a negatum through co-existence and then and then alone there will be Vyāpti between the hetu and the sādhya. In the inference, "It has fire, as it has smoke", fire, in the relation of conjunction, exists in all the substrata of smoke, as fire. The jar is different from fire and its negation characterises the locus of smoke. Fire-hood again does not determine jar-hood through co-existence. Hence smoke is the invariable concomitant of fire which is determined by fire-hood.

We have explained the three definitions of Cakravartti after the sub-commentators. Raghunātha himself explains the implications of these definitions.[29] Vācaspati Miśra says that Vyāpti is the negation of inconstancy and this is again explained by the five definitions[30] none of which, according to Gangeśa, applies to a Kevalānvayī inference. The definitions of Cakravartti also attempt to show that Vyāpti is the negation of inconstancy and that the Kevalānvayī inference is not excluded from the scope of these definitions. Indeed, as we get inconstancy or Avyāpti, when the substratum of the negation of the sādhya, which is determined by its determinant, exists in the hetu, so we get inconstancy or Avyāpti, when the determinant of the sādhya is the determinant, through co-existence, of the negatum of the negation abiding in the locus of the hetu.[31] But according to the definitions of Cakravartti the determinant of the sādhya does not determine, through co-existence, the negatum of the negation abiding in the substratum of the hetu. Hence there is no inconstancy (Vyabhicāra), i.e, Avyāpti, if we follow these definitions.

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[27] Jāgadīśī, vol. I. p. 126.

[28] In this interpretation of this definition, Jagadīśa closely follows Bhavānanda. Vide Bhavānandī vol. I. p. 165-167. The view that a negation, whose negatum does not co-exist with it, is not different from a negation whose negatum co-exists with it, considering negations determined in the same way to be the same, is found in Kṛṣṇadāsa also. Vide Anumāna-Dīdhiti-prasāriṇī, p. 70.

[29] Dīdhiti.

Thus the determinant of the sādhya is not the determinant of the negatum of the negation co-present with the hetu. This non-determination again means the difference from or negation of the determinant (of the sādhya) in the relation of collective extensity (Paryāpti).[32] And for this there is no harm even though the kitchen-fire is negated in the locus of smoke. In other words, in the inference, "The hill has fire, as it has smoke" the negatum of the negation co-present with smoke is also the kitchen-fire, as the kitchen-fire does not exist on the hill. But fire-hood, the determinant of the sādhya, does not determine this kitchen-fire in the relation of paryāpti, fire-hood being one and kitchen-hood and fire-hood being two. Hence there is not Avyāpti in this inference. In the same way, there is not Avyāpti even though there is the negation of the duality of fire and the lake in the locus of smoke.

But it may be objected that to the fallacious inference, "It has conjunction, as it has existence", the first and the second definitions apply, because the negation of conjunction being not pervasive, some other pervasive negation, whose negatum is not determined by conjunction, may be taken to be co-present with the hetu.[33]

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[30] Vide Chapter I.

[31] Vide Gādādharī, vol. I, p. 237.

[32] Ibid. p. 239.

As a reply Raghunātha says that the negation of conjunction is pervasive in quality which is a substratum of the hetu 'existence' and hence there is no Ativyāpti in the wrong inference, "It has conjunction, as it has existence." Really, the pervasive negation, co-present with the hetu, also means that there is no harm, even if a negation pervades one substratum of the hetu.[34] Here conjunction is negated in quality as such and conjunction being the sādhya, the determinant of the sādhya is not something additional to the determinant of the negatum negated in the locus of the hetu. Hence there is no Vyāpti between existence and conjunction. This is also pointed out in the conclusive definition of Vyāpti. Gangeśa says that when the sādhya is not determined by the determinant of the object negated in the locus of the hetu, we have Vyāpti. In the inference "It has conjunction, as it has existence", the sādhya is determined by the negatum-hood negated in the locus of the hetu. Hence the alleged Ativyāpti has no logical basis.

Similarly, in the inference, "It has existence, as it has a generic attribute", there is no doubt about the negation of specific existence in quality, which is a substratum of the hetu; but as existence itself is not negated in quality, there is no harm.[35]

But it may be argued that at the time of the origin of the jar the general negation of quality has its negatum co-present with it in the jar which has again conjunction and hence quality has not the non-determination of the negatum-hood, as determined by the relation of conjunction, of the negation of that which is specified by the relation of conjunction.[36]

The reply to this argument is that at the time of its origin, the jar has substance-hood in which quality does not inhere and hence both quality and its negation do not exist in the jar. And when we get a fallacious inference like, "It has conjunction, as it has existence other than that of quality", there is the negation of the conjunction of substance in action which is also a substratum of the hetu and hence there is not Ativyāpti.[37]

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[33] Vide Bhavānaudı, vol. I, p. 170.

[34] Vide Jāgadīśī, vol. I, p. 129.

[35] Kṛṣṇadāsa, Anumāna-Dīdhiti-prasāriṇī, p. 73.

[36] Jāgadīśī, vol. I, p. 129.

We have finished by this time our discussions of the definitions of Cakravartti. We shall now deal with the definitions of Pragalbha Miśra. Raghunātha discusses these definitions and rejects them as defective.[38]

Pragalbha Miśra's first definition runs as follows:-

1. Vyāpti of the hetu with the sādhya is that abhāva of the sādhya which is co-existent in the hetu and is also the determinant constituting the general essence of the sādhya by which every instance of the sādhya is characterised or determined.[39] In simpler words, when the negation of the sādhya (through some opposed essence) abides in the locus of the hetu, as also in the substratum of the sādhya (which is determined by its determinant), we have Vyāpti. There is the negation of fire, through jar-hood, in the locus of smoke and this negation of fire through jar-hood, co-exists with fire. In other words, fire is negated, through an opposed essence, not only in the substratum of smoke, but also in the substratum of fire. Hence smoke is the invariable concomitant of fire.

Thus Vyāpti is the existence, in the substratum of the hetu and also in the locus of the sādhya which is determined by its determinant, of the negation of the sādhya, through an opposed essence. But is it not sufficient if it is said that Vyāpti is the negation, in the substratum of the hetu and the sādhya, of the sādhya, through the essence of an incompatible substratum? The reply is, no. Consider, for example, the fallacious inference, "It has specific existence other than that of quality and action, as it has existence". The negation of specific existence other than that of quality and action through an opposed essence abides in the substrata of the hetu and the sādhya and as a result there is Ativyāpti.[40] Similarly, there is Ativyāpti in the fallacious inference "It has specific existence other than that of quality, as it has a universal", for all the negations of the sādhya co-existing with the universal, co-exist with the sādhya 'existence'.[41] But there is not Ativyāpti in this false inference, if the negation of the sādhya (through an opposed essence) is to co-exist with the sādhya which is determined by its determinant. In this definition the sādhya and its negation, through an opposed essence, are determined by the relation determining the sādhya and thus determined, they abide in the substratum of the sādhya in spatial relation. And for this there is not Ativyāpti in the fallacious inference, "It has knowledge in the relation of inherence, as it is a substance." For though the negation of knowledge (through an opposed essence) abides in the locus of substance, yet it abides in the substratum of the sādhya in the relation of objectifying (Viṣayatā) and not in the relation of inherence.[42]

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[37] Kṛṣṇadāsa, Ānumāna-Dīdhiti-prasāriṇ, p. 73.

[38] Jāgadīśī, vol. I. p. 130.

[39] Dīdhiti. Sādhyatāvacchedakāvacchinna-sādhyasāmānyāvacchedaka-svasamānādhikaraṇa-sādhyābhāvatvakattvam.

Similarly, the co-existence of the negation of the sādhya with the hetu is determined by the relation determining the hetu, and is present in the substratum of the hetu in spatial relation.[43] And on account of this there is not Ativyāpti in the fallacious inference, "It has smoke, as it has fire." For the negation of the sādhya 'smoke' (through an opposed essence) abides in the red-hot iron-ball in time relation and not in the relation of conjunction which determines the hetu.

Thus the first definition of Pragalbha is that Vyāpti is the co-existence of the negation of the sādhya, through the essence of an incompatible substratum, with the hetu and also with the sādhya which is determined by the essence determining it. But objection may be raised that in the inference, "It has fire, as it has smoke," there may be an illusory knowledge of the negation of fire, through an opposed essence, in the locus of smoke and as such there may be an obstruction of the knowledge of the sādhya 'fire' there.[44]

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[40] Vide, Kṛṣṇadāṣa, Anumāna-Dīdhiti-Prasāriṇī, p. 73.

[41] Vide, Bhavānandī, vol. I. p. 174. Vide also Jāgadīśī vol. I. p. 1360.

[42] Jāgadīśī, vol, I. p. 130. Vide also Bhavānandī vol. I. p. 174.

[43] Ibid.

[44] Vide Kṛṣṇadāsa, Anumāna-Dīdhiti-Prasāriṇī, p. 73.

As a reply to this objection we have the second definition of Pragalbha, which runs as follows: Vyāpti is that state in which there is no obstruction of the knowledge of the substratum-hood of the sādhya in the valid knowledge of the negation of the sādhya (through some opposed essence) which co-exists with it (the negation of the sādhya).[45] Here the valid knowledge of the negation of the sādhya, through an opposed essence, is a general knowledge. And for this there is no Ativyāpti in the fallacious inferance, "It has smoke, as it has fire," because the valid knowledge of the negation of the generic smoke (through an opposed essence) contradicts the knowledge of the substratum-hood of smoke (in the red-hod iron-ball smoke is negated through some opposed essence, but smoke is not there).[46]

Again the knowledge of the substratum-hood of the sādhya should mean the knowledge that the sādhya, being determined by the relation and essence determining it, exists in its substratum. And on account of this there is not Avyāpti in the inference, "It has fire, as it has smoke", though in the valid knowledge of the hill not possessing fire in the relation of inherence and not possessing kitchen-fire in the relation conjunction, there is the obstruction of the knowledge of the subsratum-hood of the sādhya 'fire' on the hill.[47]

Lastly, the obstruction of the knowledge of the substratum-hood of the sādhya means the negation of the knowledge of the substratum-hood of the sādhya as determined by its determinant.[48] Fire, for example, is negated, through non-fire, on the hill, the locus of smoke. There is no bar again of fire as such existing on the hill. But the kitchen-fire cannot exist on the hill in the relation of conjunction, i.e, there is the obstruction of the knowledge of the kitchen-fire on the hill in the relation of conjunction and yet there is not Avyāpti in the inference, "It has fire, as it has smoke."

We have explained by this time the first and the second definitions of Pragalbha. Raghunātha finds fault with these definitions. He says that in both of them the term "negation of the sādhya" is useless. In the first definition it is enough if it is said that the negation co-present with the hetu co-exists with the sādhya which is determined by its determining essence. The negation of fire, through non-fire, abides in the substratum of both smoke and fire and hence there is Vyāpti between them. But the negation of the jar, through non-jar, is neither co-existent with smoke, not with fire, because the jar and smoke and the jar and fire do not exist together. Hence if we say that the negation co-present with the hetu should be co-present with the sādhya, we do get the negation of the sādhya (through an opposed essence). So there is no necessity of saying that the negation of the sādhya is co-present with hetu and the sādhya.

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[45] Dīdhiti-Yatsamānādhikaraṇa-sādhyā-bhāva-pramāyām sādhya-vattā-jñāna-prativandhakatvam nāsti tattvam Vyāpti.

[46] Vide Jāgadiśī, vol. I. p, 131.

[47] Jāgadiśī, vol. I. p. 132.

[48] Ibid.

In the same way, in the second definition, we should say that in the valid knowledge of the negation which is co-present with its negatum, there should not be a bar to the knowledge of the substratum-hood of the sādhya.

But there is another definition of Pragalbha in which 'the negation of the sadhya' is not superfluous. Raghunātha criticises this definition also. Let us state this third definition of Pragalbha. Where there is no real (logical) bar to a valid inference of that which exists in the locus of the absence of the sādhya (through the essence of an opposed sabstratum), we have vyāpti.* The hill is the substratum of the negation of the sādhya 'fire', through an opposed essence, and on the hill exists the hetu 'smoke' which does not oppose the inference that the hill has fire.[49] Here by the substratum of the negation of the sādhya should be meant any such substratum, as, on account of this, Ativyāpti can be avoided in the fallacious inference, "It has smoke as it has fire."[50] For there is the negation of smoke, through the essence of an opposed substratum, in the red-hot iron ball and the hetu 'fire' existing there contradicts the inference that it has smoke.

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*Sādhyābhāvāvati yadvṛttau prakṛta-anumiti-virodhitvam nāsti tattvam Vyāpti.

[49] Gādadharī, vol. I, p. 245.

[50] Jāgadīśī, vol. I. p. 133, Bhavānandī, vol. I. p. 177.
Kṛṣṇadāsa, Anumāna-Dīdhiti-Prasāriṇī, p. 74.
Gādādhari, vol. I, p. 245.

Thus when the hetu existing in the locus of the negation (through the essence of an opposed substratum) of the sādhya, does not contradict valid inferential knowledge we have Vyāpti. Here the term "valid inferential knowledge" means that the sādhya, as determined by the essence and relation determining it, exists in the Paksa.[51]

Now Raghunātha[52] says that the cause of inferential knowledge is the knowledge that does not conttadict it, i. e, the knowledge of Vyāpti. And if Vyāpti is the knowledge of the object which exists in the locus of the negation (through an opposed essence) of the sādhya and does not contradict inferential knowledge, then this definition is too-wide. In other words, it is said in the third definition of pragalbha that when an object exists in the locus of the negation (through an opposed essence) of the sādhya and does not contradict the knowledge of valid inference, we have Vyāpti and consequently the knowledge of this Vyāpti is the cause of inferential knowledge. But in such a case there is Ativyāpti. Consider, for example, the fallacious inference, "It has smoke, as it has fire." In the knowledge of fire existing in the locus of the negation (through an opposed essence) of smoke, there is the negation of the knowledge of the obstruction of the knowledge of Vyāpti which is defined as the existence, in the locus of the negatien (through an opposed essence) of the sādhya, of such an object as does not contradict valid inferential knowledge thereof.[53]

After Pragalbha, Raghunātha clarifies the definitions of Pakṣadhara Miśra. Pakṣadhara also has three definitions.[54]

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[51] Jāgadiśī, vol, I. p, 133.

[52] Dīdhiti.

[53] Gurucaraṇa Tarka Darśana Tīrtha's foot note, Bhavānandi, vol. I. p. 179.

[54] Raghunātha puts the definitions of Pakṣadhara in a form different from that in which Pakṣadhara himself puts them. Raghunātha thinks that Pakṣadharo's way of putting the definitions is very obscure and hazy. So he clarifies them in many ways (Vide, Kṛṣṇadāsa, Anumāna-Dīdhiti-prasāriṇī, p. 75.)

1. Vyāpti of the hetu with sādhya is the hetu being characterised by the abhāva which is a pervasive characteristic of every substrate which is homogeneous with every case of sadhyābhāva of any kind. Hence the definition means the following: The sādhya. may be negated, either through the essence of an opposed substratum, or through its own essence and when it is negated, through its own essence, we must take some instance of its negation belonging to the same class (svajātiya) (i.e., some substratum of its negation through its own essence), and when it is negated through an opposed essence, some instance of its negation of the same class (svajātiya) should be selected (i.e., some substratum in which the sādhya is negated through an opposed essence should be selected), and the negation of these substrata (of these negations of the sādhya) should qualify the hetu.* In the inference, "It has fire, as it has smoke," fire is negated, as fire, in water which again is negated in smoke. Again in the fallacinus inference, "It has smoke, as it has fire", smoke is negated, as smoke, in the red-hot iron ball which is not negated in fire and as a result there is not Ativyāpti. But if in this wrong inference smoke is negated, through an opposed essence, say jar-hood, then any substratum of this kind of negation of the sādhya, is negated in the hetu (through an opposed essence) and as such there arises Ativyāpti.[55] Hence the proper meaning of the definition is that in some inference Vyāpti is the state in which the hetu has the negation of the substratum of the negation of the sādhya, through an opposed essence, and in some inference, Vyāpti is the negation, in the hetu, of the substratum of the negation of the sādhya, through its own essence. In the Kevalānvayī inference, "It is namable, as it is knowable", the namable is negated, through an opposed essence, in the jar which is negated, in the knowable through the essence of its contrary.

Another important point to be remembered in this definition is that when the sādhya is negated through its own essence, the substratum of its negation is negated in the same way in the hetu, as otherwise there is Ativyāpti.[56] For consider the fallacious inference, "It has smoke, as it has fire". Smoke is negated in the ret-hood iron ball which is negated, through an opposed essence, even in fire.

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*Yāvantaḥ sādhyābhāvāḥ pratyekam tatsajātiyā ye tat tatadhikaraṇavṛttitvābhāvāḥ tatvattvam Vyāpti.

[55] Gādādhari, vol. I. p. 254.

Now the sādhya should be negated in the nature in which it pervades the hetu, i.e., in the nature which determines it.[57] When fire is the sādhya, there should be the negation of fire, as fire, and as determined by fire-hood. Hence again the negation of the sādhya should be in the relation causing its pervasiveness. And for this there is no harm if the hetu exists in the substratum in which the sādhy is is negated through a relation in which it is not pervasive.[58]

But objection may be raised that there is Avyāpti in the inferece, "It has monkey-conjunction, as it is this tree", for the negation of monkey-conjunction, through its own essence, also qualifies this tree (in this tree there is monkey-conjunction at some part and the negation of monkey-conjunction at another).[59]

As a reply to this objection it is said that the negation of the sādhya is to be taken pervasively and hence must be distinguished from a restricted non-existence like that of monkey-conjunction in a *part* of the the tree.[60] Hence even if the hetu holds or is true of the negation of the sādhya in respect of one of its parts (i.e., absence of monkey-conjunction at the base as distinguished from the top of the tree), it does not hold of the sādhya through out without restriction or limitation. Hence the definition is not too-narrow and the charge of avyāpti or too-narrowness fails. Again the negatum of the negation of the sādhya is determined by it self and does not exist in the substratum of its negation,[61] i.e., when the sādhya is negated, through itself, it is determined only by its essence and does not co-exist with its negation. And for this there is not Avyāpti even if the hetu exists in the substratum of the negation of the sādhya as qualified by some specific essence. In the inference, "It has fire, as it has smoke", smoke may exist in the substratum of the negation of the kitchen-fire, but yet there will not be Avyāpti.

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[56] Jāgadīśī, vol, I, p. 135.

[57] Dīdhiti and Jāgadīśi, vol. I. p. 135.

[58] Ibid.

[59] Ibsd vol. I. p. 136.

[60] Ibid (Avacchinna-vṛttikānyatvam).

[61] Dīdhiti.

The significance of the negation of the sādhya in the first definition of pakṣadhara is brought out. Now the negation of the substratum of the negation of the sādhya is to be explained- This negation of the substratum of the negation of the sādhya must be conceived as negation of the substratum of an absence appropriate to the special circumstances of each particular case. In some cases, for example, the negation or absence of the sādhya has to be conceived as absence determined by the essence of the sādhya as the appropriate absence in the cases in question. In other cases the absence may have to be conceived as absence determined by some essence other than the essence of the sādhya as the appropriate absence in the circumstances. The substratum of such absence (of the sādhya) will, however, have to be taken pervasively without numerical qualification or determination. Thus two conditions are laid down, (1) the absence of the sādhya must be an absence appropriate to the specific occasion, (2) the substratum of the negation of the sādhya must be taken as such without qualification or numerical determination, i,e., must be taken pervasively. In the inference, "It has fire, as it has smoke," if fire is negated, through its own essence, in the jar then the jar is negated in the same way in smoke. Here the hill cannot be taken as the locus of the negation of fire, as the hill is the locus:of the negation of fire through an oppsed essence.

Again, the negatum of the negation of the substratum of the negation of the sādhya is to be taken pervasively as already noted. And thus the definition does not apply to the fallacious inference, "It has smoke, as it has fire", because smoke is negated in the red-hot iron ball which is not negated in fire. But there is Ativyāpti or a too-wide application, if the non-smoky *as specified by earth-hood* is supposed to be negated in fire.[62] Hence it is said that a pervasive locus and not a specific locus of the negation of the sādhya should be negated in the hetu. Similarly there is no Ativyāpti or too-wide application, even though the non-smoky, as numerically determined, e.g., as *two* non-smoky things, is negated in fire.

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[62] Dīdhiti.

Thus the negation of the pervasive substratum of the negation of the sādhya characterises the hetu.[63] Now this negation of the pervasive locus of the negation of the sādhya must also pervade the hetu, i.e., qualify it without restriction or limitation. and this will exclude ativyāpti or too-wide application in such fallacious inferences as where the negation of conjunction is partially extensive in the hetu or the negation of past existence characterises the hetu.[64]

The locus of rhe negation of the sādhya again is to be determined by the relation determining the hetu.[65] And this excludes narrowness (avyāpti) in the inference "It has fire, as it has smoke", for fire is negated in the parts of smoke in the relation of conjunction * and smoke exists, in the relation of inherence, in the parts of smoke (and not in the relation of conjunctiou which determines the hetu).

But objection may be raised that there is Avyāpti in the inference, "It is a substance, as it has specific existence **other than that of qualily and action in which existence inheres (here the specific is not taken additional to the generic).[66]

As reply to this we have the second definition of Pakṣadhara, which runs thus:—

Vyāpti is the state in which the hetu possesses the nature which is pervaded by the determinant of the negatum whose pervasive

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63. Dīdhiti.

64. Bhavānandī, vol. I. p. 189.

65. Dīdhiti.

*According to Nyāya the relation of whole to part is the relation of inherence. Thus smoke as one whole is *inherent* in the different parts or particles of smoke, Fire is in conjunction with smoke as a composite whole which composite whole is related by inherance to parts or particles of smoke. The relation of fire to the particles of smoke is thus a mediated relation through conjunction with that which is inherent in the parts. It is thus not a direct relation of conjunctton.

**Sattvā or bening according to Nyāya, is parā jāti, the most comprehensive universal or the universal of the widest possible denotation.

66. Bhavānandī, vol. I. p. 190.

negation characterises all the denotata of the non-existence of the sādhya which is negated either through its own essence or through the essence of an opposed substratum.[67] In other words, the sādhya should be negated as qualified by rhe nature in which it pervades the hetu, i,e., the nature which determines it. In some inference, it should be negated as it is and in some, through the essence of an opposed locus, according to the demand of the inference under consideration. The negation of the sādhya qualifies some objects. The hetu should have the nature which is pervaded by the determinant of the negatum whose negation pervades all these objects. The negatum whose negation pervades the denotata of the negation of the sādhya should be negated in the same way as the sādhya is negated, In the inference "It has fire, as it has smoke", fire, as fire, is negated in water and in water the negation of smoke is completely extensive. Hence smoke is the invariable concomitant of fire.

In the inference, "It is a substance, at has specific existence other than that of quality and action" substance-hood is not quality and action, and existance, negated in quality and action, abides in specific existence other than that of quality and action.

In this definition it should not be said that the hetu is the negatum of the pervasive negation qualifying the denotata of the negation of rhe sādhya, nor should it be said that the determinant of the hetu is the determinant of the negation ef the sādhya.[68] For the definition, stated in this way, is involved in Ativyāpti and Avyāpti respectively. Consider, for example, the fallacious inferecce, "It is a substance, as it has existence "(this inference is fallacious, because, existence inheres in quality and action as well). The negation of substance-hood is specific existence of quality and action and existence is not the specific existence of quality and action. Similarly there is Avyāpti in the inference, "It is knowable, as it has known-ness". For known-ness charcterises every object and hence the locus of the negation of the sādhya.

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[67] Dīdhiti. Yāvantāstādṛsaḥ Sādhyābhāvaḥ pratyekam teṣām sajātiyasya vyāpakibhūtasya vyāpyavṛtterabhāvasya pratiyogitāvcchedakena dharmmeṇa yatrūpāvacchinnam prati vyāpakatvamavacchidyate tadrūpavatvam tattvam.

[68] Dīdhiti and Jāgadiśī, vol. I. p. 143.

The author of the Dīdhiti now states a simple (laghu) definition of Pakṣadhara Miśra. Vyāpti is that state in which the hetu possesses the nature which is pervaded by the determining essence of the negatum of the appropriate negation of the pervasive sādhya which is determined by its determinant.* To explain it fully: The sādhya may be negated either through its own essence, or through the essence of an opposed substratum; the sādhya must be taken in the nature in which it pervades the hetu, i.e., the nature which determines it; the determinant of the negatum of the negation of the sādhya as such, (i.e., the determinant of the sādhya as such) pervades a nature which the hetu should possess. Here the sādhya is negated in the relation in which it pervades the hetu and the sādhya pervades, through this relation, the hetu.[69] Consider, for instance, the inference "It has fire, as it has smoke". Fire, as such is negated, in the relation of conjunction (which is the determinant of the sādhya 'fire') in water in which the hetu 'smoke' is absent. Fire as such pervades the hetu smoke in the relation of conjunction. Hence smoke is the invariable concomitant of fire.

Consider again the fallacious inference, "It is going, as it has movement". Here the fact of going, which is negated in the stationery, pervades movement in time relation and not in the relation which determines the pervasiveness of the sādhya and as such there is not Ativyāpti or a too-wide application to this wrong inference.

Thus the three definitions of Pakaṣadhara are explained. Raghunātha now clarifies a definition of Vāsudeva-Sārvabhauma avoiding the term "all the negations of the sādhya" with the help of which the latter explains it.[70] Vyāpti of hetu with the sādhya means the hetu being characterised by all that exists as the negation of the denotata of the negation of the sādhya.[71] In other words, the locus of the negation of the sādhya, should be negated, in some inferences, through its own essence and in some, through its opposed essence, in the hetu. Thus in the fallacious inference, "It has smoke, as it has fire", there is Ativyāpti, if the locus of the negation of the sādhya is negated through jar-hood, i.e., through an opposed essence (as this negation is universally present).[72] Here this locus should be taken to be negated through its own essence.

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*Yāvantaḥ tādṛśāḥ sādhyābhāvāḥ pratyekam tat pratiyogitāvacchedakena dharmmeṇa yat-rūpāvacchinnam prati Vyāpakatvam avacchidyate tadrūpavattvam vyāptiḥ.

[69] Jāgadīśī. Vol. I. p. 144.

[70] Kṛṣṇadāsa, Anumāna-Dīdhiti-prasāriṇī, p. 80.

[71] Dīdhiti. Vṛttimatvṛttayo yāvanta sādhyābhāvavatvṛttitvābhāvāstatvattram vyāpti.

The hetu has, is space relation, the negation of the locus of the non-existence of the sādhya. And for this there is not Ativyāpti, even though the non-smoky is negated in fire in time relation.[73]

The negation of the denotata of the negation of the sādhya must have an existential import (*Vṛttimatvṛtti*). The significance of this is that in some inferences there is Avyāpti without it. Consider the inference, "It has fire, as it has smoke" (in which the hetu 'smoke' bears the relation of conjunction to the Pakṣa). The substratuam of the negation of fire, through an opposed essence, is conjunction-hood which is not negated, in smoke, through its own essence. Similary, in the Kevalānvayī inference, "It is namable, as it is knowable", conjunction-hood, which is the locus of the negation, through an opposed essence, of the namable, is not negated in the knowable.[74] But fire is negated on the hill or in any other object through jar-hood and any object is negated in smoke, which exists in conjunction, through an opposed essence. Similary, the namable is negated through the essence of an opposed substratum in the whole world and the world is negated through the essence of an opposed substratum, in the knowable.

The object which is characterised by the negation of the locus of the sādhya is existent in the relation which the hetu bears to the Pakṣa And for this there is not Avyāpti in the inference, "The hill has fire, as it has smoke", even though the substratum of the negation, through an opposed essence, of fire, is negated in the relation of conjunction in the universal, but not in smoke.[75] In other words, the universal is determined by the relation of inherence and not conjunction in which the hetu 'smoke' exists in the Pakṣa. So there is no harm, even if a locus of the negation (through an opposed essence) of the sādhya is negated in the relation of conjunction in the universal but not in the hetu.

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[72] Jāgadīśī, vol. I. p. 145.

[73] Ibid.

[74] Ibid.

[75] Didhiti.

The sādhya again is negated in the nature in which it pervades the hetu and its negation pervades its locus.[76] Fire as fire should be taken to be negated when it is the sādhya and not as kitchen-fire or any specific fire and the negation of fire should qualify the whole of an object and not a part. Here again the relation in which the sādhya pervades the hetu should be the relation in which it should be negated.[77] Fire pervades smoke in the relation of conjunction and should be negated in that relation. If fire is taken to be negated in the relation of inherence, then, such a negation characterises the hill on which the hetu 'smoke' exists. So the sadhya should be negated in the relation in which it pervades the hetu.

Thus the implication of the negation of the sādhya is brought out. Now the negation of the locus of the negation of the sādhya is to be explained. All the objects denoted by the negation of the sādhya should be taken into consideration, when it is said that there ought to be the negation of the locus of the negation of the sādhya. The sādhya here may be taken to be negated either through its own essence or through the essence of an opposed locus.[78] Thus inthe fallacious inference. "It has smoke, as is has fire", smoke is negated in the red-hot iron ball which is not negated in fire and as such there is not Ativyāpti. But objection may be raised that in the inference, "It has fire, as it has smoke", fire is negated, through the essence of an opposed substratum, on the hill and also on the non-hill and both of these are not negated in smoke.[79]

As a reply Raghunātha says that the sādhya may be negated, through its own essence or through the essence of an opposed substratum, and the negation which characterises the hetu and whose negatum

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76. Jāgadīśī, vol. I. p. 146
77. Ibid.
78. Dīdhiti.
79. Gādādharī, vol. I. p. 280.

is the locus of the negation of the sādhya should not have its negatum qualified by an essence which exists in an additional substratum, or by an essence which co-exists with it but is not its determining essence.[80] In other words, the locus of the sādhya should be negated in the nature which determines its complete being. When water is negated as a substratum of the absence of light, we do not get the negation of water as such i.e., water in the nature of water-hood. Hence there is no harm, even if water, the locus of the negation of fire, is not negated in smoke as the substratum of the absence of light.[81] Similarly, there is no harm, even if the kitchen, which is the locus of the negation, through the essence of an opposed substratum, of fire supported by fuel, is not negated in smoke,[82] but in some other hetu.[83] Likewise in the Kevelānvayī inference, "It is namable, as it is knowable", the pervasive substratum of the negation, through the essence of an opposed substratum of the namable, is negated in the the knowable (through the essence of an opposed substratum) and as such there is not avyāpti.

Raghunātha now states the definition of Sārvabhauma clearing the obscurities but retaining the term "all the negations of the sādhya" which the latter uses in the definition.[84] Vyāpti of the hetu with sādhya means the hetu being characterised by all that exists as the negation of the substrata of *all the negations of the sādhya* (Vṛttimadvṛttayo yāvantaḥ sādhyābhāva-kūtādhikaraṇavṛttitvābhāvaḥ tatvattvam).[85] Here the substratdm of all the negationus of the sādhya is negated in some inferences through its own essence and in some, through the essence of an opposed substratum. Thus in the fallacious inference, "It has smoke, as it has fire", if the substratum of the negation of smoke, is negated through jar-hood, then there is Ativyāpti, as this negtiom is universally present. But the general negation of the electric hulb, which is a locus of the negation of smoke, does not characterise fire and hence there is no Ativyāpti.[86]

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[80] Dīdhiti.

[81] Ibid.

[82] Ibid.

[83] Vide Jāgadīśī, vol. I. p. 150.

[84] Jāgadīśī, vol, I. p. 151. Kūta-pada-prabeśena Sārvabaumiyam lakṣaṇam pariṣkurvannāha.

[85] Dīdhiti.

It is said that the negation of the substrata of all negations of the sādhya has an existential import. But in a Kevalānvayī inference. for example, in the inference, "All things are namable, as they are knowable", the sādhya "namable" is not absent in any locus. So a general negation of the locus of the general negation of the sādhya, in this case, does not logically bring an existential affirmative. But if the "namable" is negated in the character of its opposite, then the negation of the locus of its negation has, an existential import.[87] On the contrary, in a Vyatirakī inference e.g., it is non-smoky, as it is non-fiery there is the general negation of the negation of the sādhya in the hetu.

In this definition, the negation of the substratum of the negation of the sādhya should be taken to mean that the entire denotation of the negation of the sādhya is negated (tādṛśa-vṛttitvābhāvaśca svavyāpaka-tādṛśa-vṛttitvatva-vyāpaka-pratiyogitāka bodhyah).[88] And for this there is not avyāpti inthe inference, "It has fire, as it has smoke", even though the substratum of all the negations of fire is not negated in smoke as the support of the absence of light.[89] Similarly, in the inference, "It is knowable, as it has jar-hood", there is no Avyāpti, even though the inherence in the jar, which is a substratum of the negation of the knowable, has not negation in jar-hood.[90] In other words, the knowable is negated in the inherence in the jar which is not negated in the hetu 'jar-hood', jar-hood inhereing in the jar (here the term "all the negation of the knowable" means the negation of the knowable either through the essence of an opposed substratum, or through its own essence). But the inherence in the jar being not a pervasive object, there is not Avyāpti here.

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[86] Jāgadīśī. vol. I. p. 151.

[87] Anumāna-dīdhiti-prasāriṇi, p. 84.

[88] Dīdhiti.

[89] Bhavānandi, vol. I. p. 207.

[90] Ibid.

The term "all the negations of the sādhy" featuring in the definition has also its necessity. In a fallacious inference the pervasive substratum of the negation of the sādhya has negation, through the essence of an opposed substratum, in the hetu and as such there is Ativyāpti and to avoid this the term "all the negations of the sādhya" has been used.[91] When we consider the fallacious inference, "It has smoke, as it has fire", smoke is negated, through the essence of an opposed substratum, in fire and the result is Ativyāpti. But the general negation of smoke characteises the red-hot iron ball which is not negated in fire. So the negation of the sādhya is both through its own essence and through the essence of an opposed substratum, i.e., in some inferences the sādhya should be negated through its own essence and in some, through the essence of an opposen substratum.

The negation of the sādhya has its negatum determined by the retation determining the sādhya. And for this there is not Ativyāpti or a too-wide application of the definition. Consider the fallacious inference, "The hill has fire in the relation of inherence, as it has smoke". The inherence of fire is negated in smoke and as such there is not Ativyāpti.[92]

Again there is uot Ativyāpti when the hetu is "part of fire" and the sādhya is "fire in the relation of conjuuction".[93] In other words when we make the fallacious inference, that "It has fire in conjunction, as it is the part of fire", the conjunction of fire is negated in the part of fire and as such there is not Ativyāpti. Here there is the negation of the negation of the inherence of fire in the part of fire. But as inherence is not the relation determining the sādhya in this case the question of Ativyāpti does not arise. Similarly, when we consider the fallacious inference, "The hill has the conjunction of fire, as it has conjunction with a part of fire", the definition is not guilty of a too-wide application. Though both the hill and the part of fire have the negation of the negation of fire, yet the relations are different in the two cases. Fire as a whole is related to its several parts by the

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91. Dīdhiti.
92. Ibid.
93. Dīdhiti.

relation of inherence. The Hill is in conjunction with one of these parts in which fire as a whole inheres. Therefore the relation of fire as a whole to the hill is not conjunction simply, but inherence in that (part) which is in conjunction with the hill.

But objection may be raised that there is Avyāpti in the inference, "It is knowable, as it is namable", if the sādhya, as determined by its determinant, is negated; for the negation of the knowable as such is absurd, Agan if the sādhya is negated through the essence of an opposed substratum, then there is Atịvyāpti, in the fallacious inference, "It has the quality cognised by smell, as it is a substance", for the sādhya here is negated, through the essence of an opposed substratum in the object which is negated in the same way in the hetu 'substance'.[94]

As a reply it is said that (1) the sādhya should pervade the character in which it is negated and that (2) the character in which the sādhya is negated should pervade the sāddya.[95] Thus when the negatum knowability, as determined by jar-hood, is negated, the determinant jar-hood is pervaded hy knowability. And the negation of knowability through jar-hood characterises the cloth which is negated, through an opposed essence, in the namable. Again when the quality cognised by smell is negated, its determinant viz, quality-hood cognised by smell, pervades only the quality cognised by smell which is negated in the hetu 'substance', as all substances do not possess the virtue of being cognised by smell. In the same way the definition applies to the inference, "It has the negation of earth, as it is water", because the locus of the negation of the sādhya, as determined by its non-existence in the jạr, is irrelevant in this case.[96] Similarly, there is not Ativyāpti in the wrong inference "It has earth-hood, as it has a universal, though the substratum of the negation of earth-hood, as determined by the universal is negated in the universal.[97]

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[94] Ibid. p. 156.

[95] Ibid. vide also Dīdhiti. Vide also Bhavānandī. vol. I. p. 210 p. 211.

[96] Jāgadiśị. vol. I. p. 156.

[97] Dīdhiti.

Like wise, in the wrong inference, "It has earth-hood, as it has valid knowledge whose feature is substance-hood" there is not Ativyāpti, though the substratum of the negation of earth-hood, as determined by the universal, is negated in the valid knowledge whose feature is substance-hood.[98]

Lastly there is not Avyāpti in the inference, "It has negation, as it is the jar," (abhāvavān ghatatvāt) or in the inference, "It is knowable, as it is the jar", because the pervasive sādhya is not negated in the hetu.[99]

But the definition of Sārvabhauma is defective, says Raghunātha. For consider the wrong inference, "It has both substance-hood and earth-hood, as it has substance-hood". In the substratum of the negation of either of them, there is the non-existence of substance-hood and as such there is Ativyāpti.[100]

It may be argued against this objection that the two determinants of the sādhya should be taken collectively and that the pervasive sādhya is to be negated. Hence the alleged Ativyāpti with the help of the negation of either substance or earth-hood is inadmissible.[101]

As a reply, Raghnnātha cites another instance of Ativyāpti. To the fallacious inference, "It has substance-hood other than earth, as it has substance-hood", the definition applies, because the existence of quality, which is the substratum of the negation of substance-hood is negated in substance-hood. Here the denotata of the negation of substance-hood and those of the negation of substance-hood other than earth are the same (Dravyatvatvādyavacchinna-pratiyogitāyāḥ pṛthivyanyatva-viśiṣṭa-dravyatvatva-sama-vyāptatvāt) and hence the substratum of the negation of substance-hood is taken as the substratum of the negation of the sādhya.[102]

But it may be argued that according to sārvabhauma the specific is something additional to the generic and hence the negation of substance-hood is not the negation of the sādhya in this wrong inference.[103].

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[98] Didhiti.

[99] Ibid. Vide also Jāgadīśī, vol. I, p. 158.

[100] Ibid.

[101] Bhavānandī, vol I. p. 215.

[102] Dīdhiti.

As a reply to this Raghunātha says that in the correct inference in which the negation of colour is the sādhya (and air is the hetu)[104] the substratum of all kinds of colours. which we get by the negation of the sādhya, is not lagically available.[105] In other words, though time has all colours, yet it is not the substratum of all colours in the relation of inherence (the relation of things to time is adjectivity pertaining to time or Kālika-viśeṣaṇatā) which is the determint of the knowledge of the locus of the negation of the sādhya,[106]

But it may be contended that if the sādhya, "the negation of colour", is negated through the essence of an oppose substram, then the substratum of the negation of the sādhya is possible in the above inference.[107]

This argument has also no weight. Consider, for example the fallacious inference, "It has the negation of quality inhering in this earth, as it is air". The definition applies to this wrong inference, because the negation of the sādhya is colour in which air is negated. Similarly, there is Ativyāpti in the fallacious inference, "It has the negation of the inherence of this earth which is other than existence, as it is other than the substratum of colour", (sattvānya-prthivi-samaveta-śūnyam rūpavattānyatvāt. Atraprṛthivipadametatprthvi-param). In fact, in these inferences, all colours co-exist with the thousands of negation, through the essence of an opposed substratum, of the sādhya (thousands of negations of the sādhya imply that the negations are different, when the determinants of the negation are different) and here the substratum of the negation, through its own essence, of the sādhya is absurd.[108]

But it may be argued that this substratum is not absurd, if in

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103. Bhavānandi, vol. I. p. 215.
104. Jāgadiśi, vol. I. p. 160.
105. Didhiti.
106. Jāgadiśi, vol. I. p. 160.
107. Ibid.
108. Didhiti.

these inferences, the negation of the sādhya implies one individual colour.[109]

As a reply to this, Raghunātha says that the denotata of the negation of the sādhya should be negated, in the relation in which the hetu exists in the Pakṣa. Otherwise there is avyāpti in the inference, "It has fire, as it has smoke", as in the nonfiery (say the part of smoke) smoke is not negated in the relation of inherence. There is also Ativyāpti in the fallacious inference, "It is earth, as it is a substance".[110] For time is the substratum of the negation of earth in the relation determining the sādhya and what exists in time may be negated in the hetu in a relation which does not determine the hetu, i. e in a relation in which the hetu does not exist in the pakṣa.

But if the locus of the negation of the sādhya is taken in the relation determining the hetu, then the definition turns to be too-narrow, as it does not apply to the inference in which the sādhya is "existence" in the relation of inherence and the hetu is determined by the relation of conjunction or inherence, the locus of the negation of the sādhya "existence" being not determined by the relation of conjunction or inherence.

It may be argued that if the negation of the sādhya is qualified by co-existence with the hetu, then the definition does not turn to be futile. In other words, in a valid inference, the negation of the sādhya, through the essence of an opposed substratum, co-exists with the hetu (the negation of fire, through jar-hood, also exists on the hill on which smoke exists) and hence the substratum of the negation of the sādhya is negated, through the essence of an opposed substratum, in the hetu and as such, there is no Avyāpti.[111]

But inspite of this Ativyāpti can not be avoided. Consider, for example, the fallacious inference, "It has the negation of either, a quality cognised through an external sense (bhūtatva—bhūtas are entities which possess qualities cognised through special senses (Bahirindriyagrāhya-guna-Vattvam) or, finitude, as it is different from the substratum of touch, i. e, as it is other than what has touch." In earth, which has all the negations of the sādhya, i. e., the negation, through the essence of an opposed substratum as well as the negation through its own essence, of the sādhya, there is the negation of the hetu.

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[109] Jāgadīśī., vol. I, p. 161.

[110] Ibid. p. 162.

[111] Ibid.

*Bhūtas are entities which possess qualities cognised through special senses (Bahirindrāya-grāhya-guṇa-Vattvam).

Similarly, there is Ativyāpti in the fallacious inference, "It is other than eternity, as it is the jar in time relation" (the inference is fallacious, because every object bears time relation to eternity). For eternity is the substratum of all the negations of the sādhya (i. e., the negation of the sādhya through its own essence as well as through the essence of an opposed locus) and in eternity the hetu is negated through the essence of an opposed substratum.[112]

Thus the definition is defective according to Raghunātha. Raghunātha also rejects a third definition of Sārvavauma, as this definition is not practically different from the preceding one. This definition runs as follows:—

Vyāpti of the hetu with the sādhya means the hetu being characterised by all that exists as the negation of the substratum of all pervasive negations of the sādhya which is determiued by the nature in which it is pervasive of the hetu and which co-exists with its negation (sādhyatā-vacchedakāvacchinna-vyāpakatāvacchedaka-rūpāvacchinna-pratiyogitāka-vyāpyavṛtti-svasamānādhikaraṇa--yāvadabhāvadhikaraṇa-vṛttitvābhāvaḥ yāvanto vṛttimad-vṛttayaḥ-tadvattvam vyāptiḥ).[113] But this definition too has its explanation. Only the pervasive negation of the pervasive sādhya is relevant. And for this there is not Avyāpti in the inference, "It has the negation of conjunction, as it is knowable," because the negation of the negation of conjunction, i. e, conjunction, is not pervasive (but here the sādhya is pervasive, for the negation of conjunction characterises all objects. Even the substance which has conjunction has the negation of conjunction in some part).[114] In other words, it may be argued that the definition does not apply to this inference, because conjunction, the negation of the sādhya, is not negated in substance, a substratum of the knowable. To this it is replied that as conjunction does not pervade the substrata of the knowable (i. e, conjunction qualifies substance but not quality, action, etc, which are also the substrata of the knowable), the alleged Avyāpti does not stand. Similarly there is not Avyāpti in the inference, "It has quality, as it has substancehood". For though the negation of some quality holds in respect of the substratum of the hetu, it is not pervasive there.[115]

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[112] Dīdhiti.

[113] Ibid.

In the next place, the negation of the pervasive sādhya as such is to be accepted and for this there is not Avyāpti in the inference, "It has the negation of earth, as it is water". For though the substratum of the negation of the negation of earth, through non-existence in the jar, is not available, the negation of the negation of earth is not existent in the hetu 'water'.[116]

Lastly, the substratum of the negation of the sādhya and the hetu should be taken in the relation determining the hetu, as in the previous case.[117]

Thus Raghunātha discusses fourteen definitions of Vyāpti taking, for the time being, the negation determined by the essence of an opposed substratum, to be true. But he, following Gangeśa, does not accept the validity of this kind of negation. So now he refutes this negation.[118]

Gangeśa holds that in denial or negation the content that is negated must always be in respect of itself as characterised by its own essence, negation being negation of the content and, therefore, of it in the character of the content. Negation of the content or negatum in some character other than the character of the content makes the negation senseless.[119] How can we negate colour except as colour or sound except as sound? To say that we negate colour as sound or in the character of sound makes the negation of colour meaningless.

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[114] Dīdhiti and Bhavānandī, vol. I. p. 243.

[115] Jāgadīśī, vol I. p. 167-68.

[116] Dīdhiti and Kṛṣṇadāsa's Anumāna-didhiti-prasāriṇī. p. 95

[117] Dīdhiti.

[118] Atha vyadhikaraṇa-dharmāvacchinabhāva-khanḍane Dīdhiti (Bhavānandi, vol. I. p. 246).

Raghunātha points out that the negation of a content in any character other than the character of the content itself is contradicted by the evidence of experience. Consider, for example, a particular experience of a negation—the perception of the absence of a jar. The jar is perceived here to be absent *as a jar*, i. e, in the character of jar-hood and not as a non-jar. Just as when we perceive the jar as existent, we perceive it as a substanrive qualified by an adjective which, in this case, is its own intrinsic essence, jar-hood, so when we perceive the jar as absent, we perceive it as absent in its own character or essence. When we petceive the jar as a non-jar or in some character other than jar-hood, we perceive it wrongly and reject the experience as illusion. To perceive the absence of the jar in some character other than the character of the jar would similarly be perceiving the absence of an illusory or unreal jar. Hence absence or negation of a content in some character other than a character of the content is absurd.[120]

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[119] Tattva-chintāmaṇi.

[120] Didhiti.

CHAPTER IV

SOME PRIMA FACIE DEFINITIONS OF VYĀPTI (VYĀPTI-PŪRVAPAKṢA)

(For a symbolical representation of these definitions, see Chapter IX)

In this Chapter Gangeśa states, discusses and rejects several definitions of Vyāpti. The first definition means that the vyāpti of the hetu as a condition of inference is the hetu existing in its locus in such wise that it is not the locus of what is non-co-existent with the sādhya.[1] Jagadīśa reduces this definition to the following:—

When the locus of the hetu is characterised by the absence of the object negated in the locus of the sādhya, we have vyāpti (vide, Jāgadīśī, Vol. I P. 17). In the Kevalānvayī inference, the said non-co-existence with the sādhya is possible in ether which is not the substratum of anything.[2]

It may be objected that this definition does not apply to the inference, "It has fire, as it has smoke", because the lake, which does not exist in the locus of fire, is absent even in what is not the substratum of smoke,[3] (e. g, in the electric bulb).

As a reply Raghunātha says that the definition implies that the absence of the[4] object negated in the locus of the sādhya should characterise all the instances of the hetu. There is no harm if this absence holds good in some other object.

But again there may be the objection that there is Ativyāpti in the fallacious inference, "It has smoke, as has fire", because the substratum of smoke has the negation of the lake and the lake is absent in the kitchen in which fire exists.[5]

As a reply to this Raghunātha says that some object absent in the locus of the sādhya should be absent in the locus of the hetu.[6] Thus there is the negation of the red-hot iron ball in the substratum of smoke but its absence does not characterise all instances of fire.[7]

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[1] Tattvacintāmaṇi (sādhyāsāmānādhikaraṇyānadhikaraṇatve sati sādhikaraṇatvam).

[2] Ibid.

[3] Bhavānandi, vol. I. p. 252.

[4] Dīdhiti.

[5] Bhavānandi, vol. I. p. 252.

Raghunātha here shows that the definition under discussion can be saved from being fallacious, if it is taken under certain conditions. Gangeśa, however, takes the definition as it is, and shows its absurdity. The definition asserts that Vyāpti is the existence of the hetu in the locus in which the object which is absent in the locus of the sādhya is absent. This definition is fallacious, because if an object does not exist in the substratum of the sādhya, it neither necessarily exists in the substratum in which the sādhya is absent, nor is it necessarily negated in the substratum of the sādhya.[8] The jar may not exist on the hill, the locus of fire, but it also may not exist in water in which there is no fire. Again the kitchen-fire is negated on the hill in which there is fire, but the kitchen is also the substratum of fire. Further the definition does not apply to the Kevalānvayī inference. Consider, for instance, the inference, "All things are namable, as they are knowable." Here the question of the absence of any object in the locus of the sādhya is absurd.

Gangeśa now critices a second definition. It may be said that Vyāpti is the co-existence of the hetu with the sādhya which is not the negatum of the absolute negation which characterises the locus of the hetu. (Svasamānādhikaraṇātyantābhāvāpratiyogi-sādhyasāmānādhikaraṇyam). This definition is false, because the mountain-fire is the negatum of the absolute negation co-existing with the kitchen-smoke.[9] Let us consider the inference, "The kitchen has fire, as it has smoke". The mountain-fire is negated in the kitchen and the mountain-fire is also fire. Hence fire is not the non-negatum of the absolute negation characterising the substratum of the hetu 'smoke'. Thus the nefinition is absurd.

But it may be argued that the definition really means that Vyāpti is the co-existence of the hetu with the sādhya which is determined

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6. Dīdhiti.
7. Bhavānandī, vol I. p. 252.
8. Vide Mathurī, p. 71. Tattva-cintāmaṇi. Calcutta.
9. Tattva-cintāmaṇi p. 71.

by the non-determinant of the negatum negated in the substratum of the hetu.[10] As a reyly, it is said that in the inference, "It has conjunction, as it is a substance," the hetu is not pervaded by the sādhya.[11] In other words, in this inference, the sādhya is not the negatum of the absolute negation characterising one part of the hetu (as a substance has conjunction with another in a certain part), but in other parts of the hetu, it is negated. In still simpler words, the definition means that when the sādhya, without being negated in the locus of the hetu, co-exists with the hetu, we have Vyāpti. But in the inference, "It has conjunction, as it is a substance", the sādhya is negated in a part of the hetu. Hence the definition is wrong.

To save the definition from being fallacious, it may be argued that the absolute negation, which is co-present with the hetu and whose negatum should not be the sādhya, should have its negatum present in a locus which is incompatible with its locus and should pervade its locus. But this argument is wrong, Foa consider the fallacious inference, "It has conjunction, as it has existence." The negation of the jar has its locus different from the locus of the jar, completely pervades its locus and characterises the locus of existence. But conjunction is not the negatum of this negation of the jar, co-present with the hetu.[12] Hence the definition is too-wide.

But it may be argued that the negation of conjunction characterising quality, which is a substratum of existence, is different from the negation of conjunction characteristng substance. This negation has again its locus different from the locus of its negatum and pervades its locus.[13] Hence conjunction is negated in the locus of the hetu, existence and as such there is not Ativyāpti. As a reply to this Gangeśa says that the difference of the substrata does not make the negations different.[14]

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[10] Dīdhiti

[11] Vide Tattva-cintāmaṇi, p. 71.

[12] Māthurī, Tattva-cintāmaṇi, p. 73.

[13] Ibid.

[14] Tattva-cintāmaṇi, part, II. p. 72. According to some commentators of Gangeśa, however, the difference of substrata makes the negation different.

Gangeśa now discusses a fresh definition. It may be said that Vyāpti is the co-existence of the hetu with the sādhya, which is not the negatum of the reciprocal negation characterising the locus of the hetu (sādhanavanniṣṭha-anyonyābhāva-apratiyogi-sādhyavatkatvam). The defect of this definition is that it does not apply to the inference, "It has the conjunction of monkey,as it is this tree". For though the conjunction of monkey is perceived in the tree, yet there is the reciprocal negation of the conjunction of monkey with the root of the tree. Here it is not said that the tree has both the affirmation and negation of monkey-conjunction at the same place, for affirmation and negation hold good of the same place when the determinants are different. There is the affirmation of one quality in a thing and at the same time there is the negation of the opposed quality in this thing. The tree at the same place cannot have both the presence and the absence of the monkey. But the monkey can be negated in the root, though it can be present in a branch. Thus though there is the reciprocal negation of the negation of monkey-conjunction in this tree, i. e. though the sādhya is not the negatum of the reciprocal negation charaterising this tree, the hetu 'this tree' is not pervaded by the sādhya 'monkey-conjunction'. Really Vyāpti is not available in every case, if the sādhya be not simply the negatum of the negation holding in respect of the locus of the hetu. Vyāpti, on the other hand, is something positive. It is the pervasion of the hetu by the sādhya.

It may be argued that generally Vyāpti is the state in which the hetu is pervaded by the sādhya. But in the case of specific (Viśeṣa) Vyāpti, Vyāpti can be defined by the co-existence of the hetu with the sādhya which is not the negatum of the reciprocal negation holding in respect of the locus of the hetu.[15] But even this contention is groundless. For take the specific instance of Vyāpti in the inference, "The hill has fire, as it has smoke". There is the reciprocal negation of the kitchen-fire with the hill, the substratum of the hetu 'smoke' and kitchen-fire is also fire.

It may again be contended that fire as fire is not the negatum of the reciprocal negation co-present with smoke. So the alleged Avyāpti has no logical basis.[16]

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[15] Dīdhiti. vide also Māthurī, Tattva-cintāmaṇi, part. II. p. 74-75.

As a reply to this Gangeśa says that specific nagations are not perceived to be different from the general negation. The negation of kitchen-fire is perceived to be the negation of fire and not a special type of fire. All the specific negations of fire characterising the locus of smoke are the negation of fire and hence the alleged Avyāpti stands.

Gangeśa now attacks a fourth definition. It may be said that Vyāpti is the co-existence of the hetu with the sādhya which is not the substratum of the virtues or properties whose substratum is opposed to that of the virtues existing in the locus of the hetu.[17] This definition is absurd, because knowability, co-exists with every hetu and there is no virtue whose substratum is opposed to that of knowability (everything being knowable). Similarly, in the inference "The kitchen has fire, as it has smoke," there is the absolute negation of fire, in the relation of inherence, in the kitchen and also there is the receprocal negation of the locus of fire (say of the hill) with the kitchen.

The fifth definition that Gangeśa criticises is that of Udayana.[18] According to Udayana Vyāpti is the relation between the hetu and the sādhya without any limiting adjunct (Anaupādhikaḥ sambandho Vyāptiḥ). Mathurānātha's interpretation of it is that when the co-existence of the hetu with the sādhya is characterised by the absence of any limiting condition (upādhi), we have Vyāpti.[19] In plain words when the hetu and the sādhya are unconditionally related, we have Vyāpti. The reason why the hetu should not have any limiting adjunct is that an adjunct which pervades the sādhya may not pervade the hetu. The sādhya again pervades the hetu, when the sādhya is not the negatum of the absolute negation characterising the locus of the hetu i. e., when the sādhya is not negated in the substratum of the hetu. So when the sādhya is negated in the substratum of the hetu, we get a fallacious inference in which the hetu has a limiting adjunct (Upādhi), e. g, "It has moke, as it has fire supported by green wood".

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[16] Māthuri, Ibid, p. 75.

[17] Sādhana-samānādhikaraṇa-yāvat-dharma-nirūpita-vaiadhikaraṇya-anadhikaraṇa-sādhya-sāmānādhikaraṇyam.

[18] Māthuti, Tattvacintamaṇi, part II, p, 78 (Achārya-lakṣaṇamāsamkaṭe)

[19] Ibid.

We must remember in connection with the view of Udayana that the negatum of a negation does not mean opposition to the substratum of the negation in the sense of not existing together. Cow-hood and horse-hood do not exist together, yet no body speaks of cow-hood being the negatum of the absolute negation characterising horse-hood. Indeed cow-hood and horse.hood have reciprocal negation. And even there may be reciprocal negation in which the objects negated exist together. Substance and quality are reciprocally negated, but they do exist together.[20]

Thus negation does not necessarily mean that the object negated does not exist along with the substratum of its negation. But the relation between the object negated and the negation is a type of svarūpa-sambandha (self-relation) even as the relation between the negation and its locus is svarūpa-sambandha. And the negation of the negation of a thing is the negatum of the negation of that thing. The jar is the negatum of the negation of the jar and the negation of the negation of the jar is the jar itself. So the negation of the negation of the jar is also the negatum of the negation of the jar.[21]

Thus according to Udayana the sādhya pervades the hetu when it is not the negatum of the absolute negation characterising the locus of the hetu and the negation of the negation of an object is also the object itself or the negatum of the negation of the object. Vyāpti again is the unconditional relation between the hetu and the sādhya, because the property conditioning the sādhya may not condition the hetu. When we consider the inference, "It has fire, as it has smoke", a particular quality conditioning fire may not condition

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20. Kāmākhyānātha Tarkavāgīśa's foot-note. p. 81. Tattva-cintāmaṇi, part II. Calcutta.

21. Mathurī, Ibid. Here Mathurānātha is explicating the view of Udayana, the famous expenent of the Old School.

smoke. But it is not possible to know whether a virtue pervades the sādhya and does not pervade the hetu, simply through the negatum negated in the hetu. On the contary, the unqualfied or unconditional relation between the hetu and the sādhya (i. e, the co-existence of the hetu and the sādhya without any limiting adjunct) is the negation of the non-pervadedness of the hetu, when the entire sādhya is pervaded and also the negation of the pervadedness of the sādhya, when the entire hetu is not pervaded. Knowability pervades the entire sādhya as well as the entire hetu; so there can be unconditional relation between them, though qualified by knowability. If again jar-hood does not pervade the entire hetu, it must not pervade the sādhya.

Gangeśa's objection to this definition of Udayana is that the co-existence of the hetu, without any limiting adjunct, with the sādhya is not available everywhere. Udayana says that when on the complete pervasion of the sādhya by a quality, the non-pervasion of the hetu by that quality is negated, we have unconditional relation between the hetu and the sādhya and this unconditional relation is Vyāpti. Gangeśa's criticism of this position is that the negation of the non-pervasion by the quality, which completely pervades the sādhya, may characterise a substratum opposed to the hetu.

It may be said, as a reply to this criticism, that the unconditional relation between the hetu and the sādhya takes place when the sādhya has non-pervasion on the non-pervasion of the entire hetu, or, when there is the pervasion of the hetu on the pervasion of the entire sādhya.[22]

The objection to this position is that even when the hetu is conditioned by a limiting adjunct, the sādhya has non-pervasion on the non-pervasion of the entire hetu, or the hetu has pervasion on the pervasion of the entire sādhya. Consider, for instance the (wrong) inference, "It has smoke, as it has fire supported by wet fuel". The wet fuel which does not pervade the hetu 'fire', does not pervade the sādhya. Secondly, the wet fuel which pervades the sādhya 'smoke' pervades the kitchen-fire.

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[22] Tattva-cintāmaṇi, part. II. p. 80.

It may again be said, as a reply to this criticism, that the unconditional relation between the hetu and the sādhya is the non-existence of the hetu in the substrata of all the negations of the sādhya.[23] In other words, the sādhya is negated in many substrata. If the hetu is also negated in these substrata, then it is unconditionally related to the sādhya. The defect of this position, according to Gangeśa, is that Vyāpti cannot be determined in a Kevalānvayī inference with this definition of unconditional relation, as the sādhya is negated nowhere in a Kevalānvayī inference.

Gangeśa now attacks the definition of Vallabha, the author of Nyāya-līlā-vatī.[24] According to Vallabha Vyāpti is a universal relation (Kārtsnyena sambandho Vyāptiḥ). It is the• co-existence of the sādhya with all instances of the hetu. The sādhya 'fire', for example, co-exists with all types of smoke, the hill-smoke, the kitchen-smoke, the yard-smoke ond so on. The defect of this definition, according to Gangeśa, is that when the hetu is singular, this definition is inadequate. And even when the hetu is not singular, the definition is futile, for every kind of fire does not co-exist with all kinds of smoke. The hill-fire, for example, does not co-exist with the kitchen-smake.[25]

As a reply to this criticism it may argued that Vyāpti is the relation of the hetu with the all the instances of the sādhya.

But even this explanation does nor improve matters. When we consider a non-equipollert (Viṣama) Vyāpti (i. e, when the hetu does not exist in all instances of the sādhya, in other words, when we consider an A proposition and not a U proposition), the definition fails, because the hetu is not found to co-exist with every instance of the sādhya. Smoke, for example, does not exist in the red-hot iron bar. So the definition does not apply to the inference, "It has fire, as it has smoke".[26]

It may further be said that vyāpti is the relation between the hetu and the sādhya which exists in all the substrata of the hetu. But the difficulty here is that the definition does not apply to the inference, "It has sound, as it is ether", because here the sādhya exists in only one locus.[27]

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[23] Māthuri, p. 85, Tattva-cintāmaṇi. part. II. Calcutta.

[24] Māthuri, 86. Ibid. (Lilāvatikāramatam.........nirākaroti)

[25] Tattvacintāmaṇi, part II, p. 83.

[26] Ibid.

Yet another explanation of the universal relation between the hetu and the sādhya is possible. It may be said that Vyāpti is the co-existence, with the hetu, of the sādhya which co-exists with all the virtues co-existent with the hetu.[28] The co-existence of the sādhya with all the virtues co-existent with the hetu means that the sādhya exists in the locus of every virtue co-existent with the hetu. But this is absurd. For fire does not co-exist with every virtue co-existent with smoke and hence the definition does not apply to the infetence, "It has fire, as it has smoke".

The seventh definition that Gangeśa attacks is that of Vācaspati Miśra.[29] Vyāpti, according to Vācaspati Miśra, arises ftom the very nature of the hetu. In other words, Vyāpti depends on the very essence of the hetu, so that when the hetu as such co-exists with the sādhya as such, we have vyāpti (Svābhāvikaḥ sambandho vyāptiḥ).[30]

Now Gangeśa says that vyāpti is either caused by the very nature of the hetu or the nature of the hetu is the ground of vyāpti. In the former case there is Avyāpti in the inference, "It is a substance, as it is earth," because the co-existence of earth-hood with substance-hood is eternal and not caused. In the latter case, there is Ativyāpti in the fallacious inference, "It is a substance, as it has existence", because the co-presence of existence with substance-hood is not an acquired or attributed co-existence but natural co-existence (sattvāyām dravyatva-sāmānādhikarṇyasyānāropitatvāt).[31]

Gangeśa now criticises the definition of Vyāpti as given by the Buddhists. According to the latter, when the hetu is different from what exists in the substratum of the absence of the sādhya, we have vyāpti (abīnābhāvaḥ).[32] It is the non-existence of the hetu in the substratm of the non-existence of the sādhya. This definition is defective, as it does not apply to an inference in which the sādhya is universally present (Kevalānvayī).

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[27] Māthurī, Ibid. p. 87. (vide also the foot note in this page.

[28] Tattva-cintāmaṇi, part II, p. 84.

[29] Tikākāralakṣaṇamāsamkate—Māthurī,

[30] This is also the view of varadarāja, the author of Tārkika-rakṣā.

[31] Māthuri, Tattvacintamaṇi, part, II. p. 88.

[32] Ibid.

The ninth definition that Gangeśa criticises is that of Vātsyāyana. According to Vātsyāyana, Vyāpti is any co-existence of the hetu with the sādhya (sambandhamātram Vyāptiḥ).[33] In other words, when ever the hetu co-exists with the sādhya we have vyāpti. But even in the fallacious inference, "It is a substance, as it has existence", there is the co-existence of the hetu with the sādhya in a particular substratum. Hence when we get a correct inference like, "It has fire, as it has smoke", we should say that the co-existence of smoke with fire in any locus is Vyāpti between smoke and fire.

The defect of this definition, according to Gangeśa, is that if the linga-parāmarśa (i. e., the perception of the existence of the hetu in the pakṣa) is determined by the nature of Vyāpti, then this definition should have a different meaning.[34] As a matter of fact, this definition is either (i) the determinant of the linga-parāmarśa (i. e, the perception of the hetu, which is a concomitant of the sādhya, as existing in the pakṣa) which is the cause of inference, or (ii) the determinant of Vyāpti whose knowledge is the instrumental condition of the inferential knowledge.[35] In the former case, the definition should have a different meaning. If the latter, then the reply is that any instance of the co-existence of the hetu with the sādhya is not vyāpti, for the knowledge of any such co-existence does not give the knowledge of the inferential conclusion. Fire co-exists with smoke on the hill, but fire is not the invariable concomitant of smoke, because from the knowledge of the co-existence of fire with smoke on the hill, we have not the knowledge of the co-existence of fire with smoke in the electric bulb.

After refuting the definition of Vātsyāyana, Gangeśa takes up a tenth definition. It may be said that Vyāpti is affirmative relation (between the hetu and the sādhya) i. e., the universal co-existence of the hetu with the sādhya, in a Kevalānvayī inference and in an ordinary inference like, "It has fire, as it has smoke", Vyāpti is the non-existence of the hetu in what is different ftom the substratum of rhe sādhya. This definition is absurd, because when we take the inference, "The hill is fiery, as it is smoky", the hetu 'smoke' exists in the places other than the hill on which there is the sādhya 'fire'.

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[33] This is also the definition of Kumārila.

[34] Tattva-cintāmaṇi.

[35] Māthuri, Tattvacintāmaṇi, part II, p. 90.

Vyāpti may be further defined as the non-existence of the hetu in all loci which are different from all loci of the sādhya. But this definition also does not improve matters for every substratum of fire is different from all the substrata of fire. In other words, when we consider the inference, "The hill has fire, as it has smoke", the hill is different from all the substrata of fire (i. e., the hill is not all the substrata of fire) and smoke exists on the hill. Hence the definition is absurd.

All the definitions considered in this chapter are defective because these do not take into accouunt the proper function of the sādhya and the hetu. In an inference, the hetu exists in the pakṣa and this existence of the hetu in the pakṣa is further determined by a Vyāpti in which the Vyāpaka or the pervader is the sādhya and the Vyāpya or the pervaded is the hetu. It is not enough, if the sādhya is taken simply to be the thing which is inferred or which is to be inferred in an inference. Its pervasive existence in the hetu is the essential thing in inference. When we consider the inference, "The kitchen has fire, as it has smoke" the sādhya should be shown to pervade all instances of smoke and not simply kitchen—smoke and hence the sādhya is fire (which exists in the kitchen, the hill, the field etc), and not the kitchen—fire.

It is interesting to note that some definitions of Vyāpti discussed in this Chapter have a close parallel in Hob-house's forms of generalisation. Consider, for example, the definition of Udayana that Vyāpti is the co-existence of the hetu, which has no limiting adjunct (Upādhi), with the sādhya. Here a limiting adjunct or Upādhi of hetu means an adjunct which pervades the sādhya, but not the hetu. When we make the inference, "It has smoke, as it has fire supported by green wood", the fact of being supported by green wood is an adjunct which pervades the sādhya 'smoke' but not the hetu 'fire'.

Hence it is not the essence of the hetu but is a limiting adjunct or Upādhi of the hetu. Now when the hetu without having such an upādhi co-exists with the sādhya, we have vyāpti, according to Udayana. Smoke, as determined by smoke-hood, co-exists with fire. Hence smoke is the invariable concomitant of fire. Now in Hobhouse also we get a definition of limiting adjunct or upādhi, which resembles the definition of the Naiyāika. Hobhouse says,— if A is not always in the relation which we observed between it and B, then there was along with A some third fact C, which dose always go with B, but not always with A". (Theory of knowledge P. 265). Here this third fact C is a limiting adjunct or upādhi of A. It pervades B but not A. It is not "A pure and simple ", i e, it is not the essence of A, but bears "some sort of relation to A" and "need not be entirely separate from A". Gangeśa also admits that the upādhi in the hetu is not its determining essence, but is not a futile adjective attached to the hetu, even is the adjunct 'blue' is a futile adjective attached to smoke, when we make the inference, "The hill has fire, as it has blue smke". But as it does not pervade the hetu, it has no importance in a universal reletion berween the hetu and the sādhya.

Now the definition of Udayana that vyāpti is anaupādhikaḥ sambandhaḥ i. e, the co-existence of the hetu, without having any upādhi, with the sādhya, has also a close parallel in Hobhouse. "If a fact A_1 is observed in any relation to a fact B_1, then any A will be in that relation to B, unless among the facts in relation to B_1, there was some fact other than A alone which always has B related to it as in the observed case, but is not elways related to A as in the observed case" (Theory of knowledge, P. 270).

In the next place Hobhouse puts the Universal Judgment in three forms which of course imply each other :—

(1) "All A is B or any A is B.

(2) A as such is a sufficient ground for asserting B.

(3) A-B forms a necessarily conneeted whole".

(Theory of knowledge, P. 245).

A concrete axample of (1) is: "In all vertebrates the —nervous system has some kind of centre. A concrete instance of (2) is: "The united testimony of contemporary histotians compels assent".

An example of (3) is: "Elliptical motion is the necessary result of the combined influence of gravity and inertia." Now the first form viz "All A is B" is akin to the definition of Vallabha. Vyāpti, according to Vallabha, is universal relation (Kārtsnyena sambandho vyāptiḥ). It means that the sādhya exists in all instances of the hetu. If the hetu is A and the sādhya B, then B exists in all instances of A. In other words, All is B.

The second form of universal judgment of Hobhouse viz: "A as such is a sufficient ground for asserting B", is the same as the definition of vācaspati Misra that vyāpti is svābhāvikaḥ sambandhaḥ or vyāpti is a relation that arises from or depends on the very svabhāva, nature or essence of the thing. When A'S nature involves B, i. e., A could not be A without being related to B, we have vyāpti as svābhāvika-sambandha or essential relation. This is exactly what Hobhouse means by "A as such is a sufficient ground for asserting B".

CHAPTER V

THE CONCLUSIVE DEFINITION OF VYĀPTI.

(VYĀPTI-SIDDHĀNTA LAKṢAṆAṂ).[1]

After refuting the definitions of Vyāpti or invarialbe concomitance of the previous thinkers Gangeśa propounds his own definition. Vyāpti is the co-existence of the Hetu with the sādhya which is not determined by the determinant of the negatum of the absolute non-existence which co-exists with the hetu, but whose negatum does not so so-exist.[2] This definition can be expressed in a simpler fashion, if we take the help of symbols. If his the hetu and s the sādhya and a the object which is absent but not pressent in the locus of the hetu, then vyāpti is the co-existence of h with s which is not qualified by the essence of a. (For a further explanation of this definition, see chapter IX). In the inference, “It has fire, as it has smoke”, water, which is negated in the substratum of smoke, dose not qualify fire and smoke and fire co-exist. Hence smoke is the inariavble concomitant of fire. On the contrary, in the fallaciuus inference, “It has smoke, as it has fire,” the hetu fire is present in the red-hot iron ball but the sādhya ‘smoke’ is absent there, hence fire is not the invariable concomitant of smoke.

In explaining this definition of invariable concomitance Raghunātha[3] points out that we have invariable concomitance when the hetu co-exists with the sādhya which is determined by the non-determinant of the negatum having a different substratum from that of its absolute non-existence whieh characterises the substratum of the hetu. In other words the determinadnt of the sādhya should not determine the object absent in the locus of the hetu.

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[1] We shall explain this Chapter after the Dīdhiti, Jāgadīśī and Nyāyācārya-Tarkatīrtha-śrīvāmācaraṇa Bhattācārya's expansion (Vivṛti) of the Jāgadīśī.

[2] Vide Tattva-cintāmaṇi, Part, II, p. 100. Calcutta.—“Pratiyogya-samānāhikaraṇa-yat-samānādhikaraṇātyantābhāva--pratiyogitāvacchedakāvacchinnam yat na bhavati tena samam tasya sāmānādhikaraṇyam vyāptih.”

[3] Dīdhiti.

We have stated here Raghunātha's explanation of Gangeśas definition summarily, because what we have stated contains its essential meaning. To explain it fully: The sādhya should be determined by the essence which is not the detetminant of the object which is absolutely negated in the locus of the hetu; the object which is abso. lutely negated in the locus of the hetu should have a substrtuam opposed to that of its negation; the sādhya as such and as determined by its essence should pervade the hetu. Kṛṣṇadāsa, in his Anumāna-Didhiti-prasāriṇi, P. 136, explains very nicely the necessity of the expressions, "the sadhya as such" and "the sadhya as determined by its essence". In the inference "It has fire, as it has smoke", smoke may be said to be pervaded by substance. But if it is definitely said that fire as fire and not as substance should pervade smoke, then the question of substance pervading smoke dose not arise in this inferencc. Similarly, in order that fire, as determined by specific fires, like the kitchen-fire, the yard-fire, the hill-fire, etc. may not be supposed to pervade smoke, it is definitely said that fire as determined by its essence, that is, by fire-hood, pervades smoke.

In this interpretation Raghunātha puts the definition of Gangeśa in some-what different form. According to the latter the sādhya should not be determined by the essence determining the negatum of the negation co-present with the hetu, and the co-existence of the hetu with such a sādhya is Vyāpti. Raghunātha, on the contrary, says that the sādhya should be determined by an essence which does not determine the negatum whose non-existence co-exists with the hetu and whenever the hetu is co-present with such a sādhya, we have invariable concomitance. Jagadīśa justifies this modification of Raghunātha. When we consider the valid inference, "The hill is fiery, as it has smoke", the kitchen-fire, for example, does not exist on the hill which is the locus of the hetu. The hill is the substratum of both the hetu and the negation of kitchen-fire. But the negatum of this negation of kitchen-fire is the kitchen-fire and the sadhya 'fire' is determined by this kitchen-fire or any other individual fire, while according to the definittion of Gangeśa, the sādhya should not be so determined.[4]

But Raghunātha's way of expression of the definition removes this defect. The kitchen-fire, for example, does not exist on the hill. But the non-determinant of the kitchen-fire is the yard-fire, hill-fire or any other individual fire other than the kitchen-fire. But the yard-fire, or the hill-fire or any individual fire determines the sādhya 'fire', For fire-hood is common to all individual fires and the determinant of fire is fire-hood. Thus the definition in the modified form of Raghunātha well applies to the inference, "It has fire, as it has smoke".

But it may be objected against the view of Raghunātna that even his way of putting the definition would involve it in the fallacy of narrowness. The kitchen-fire does not exist on the hill, the substratum of the hetu 'smoke' (considering the inference, "The hill has fire, as it has smoke"). But the difference of kitchen.fire form fire-hood is a thing which (here fire-hood is the determinant of the kitchen-fire) being negated in fire-hood which determines the sādhya, i. e, the kitchen-fire being also fire,* the definition does not apply to the inference, "It has fire, as it has smoke" and the difficulty of Gangeśa's definition remains in that of Raghunātha's.

The reply to this objection, as Jagadīśa points out, is that the expression that the non-determinant of the negatum negated in the substratum of the hetu should determine the sādhya, means also that when this negatum is not determined by both the determinant of the sādhya and the determinant of what is other than the sādhya, then its non-determinant should determine the sādhya. When it is said that the kitchen-fire is negated on the hill, we get two determinants viz., kitchen-hood and fire-hood, fire-hood determining the sādhya and kitchen-hood determining what is not the sādhya. Hence the negation of the kitchen-fire on the hill cannot be selected to show

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[4] There is not however much difference between Gangeśa's expression of the definition and Raghunātha's expression of it and the distinction is not always adhered to.

* Kitchen-fire being the same as fire, Kitchen-fire has the negation of the difference from fire.

Avyāpti (incompleteness of the definition). On the other hand, there is the negation of the jar on the hill and the non-determinant of the jar determines the sādhya fire, i. e., the determinant of fire is the non-determinant of the jar.

The idea of Jagadīśa here perhaps is that Gangeśa's defect can be removed by the improvement of Raghunātha, if the non-determinant of the kitchen-fire is the yard-fire, or the field-fre which determines the sādhya 'fire'. But if it is shown that the kitchen-fire is also fire and as such neither Gangeśa's nor Raghunātha's definition applies to the inference, "It has fire, as it has smoke". then the reply would be that the negatum negated in the substratum of the hetu, should not be determined by both the determinant of the sādhya and the determinant of what is not the sādhya. The kitchen-fire which is negated on the hill and whose substratum is opposed to the hill, is, on the contrary, so determined. Hence the alleged Avyapti or incompleteness is no real bar against the fruitfulness of the definition.

But it may be objected that the definition does not apply to the inference "It has the knowable, as it has smoke", because whatever may be negated on the hill is a knowable and here the question of the determinant of the sādhya and the determinant of what is not the sādhya as determining the negatum negated in the substratum of the hetu is irrelevant, as everything is knowable.

The reply to this objection is that the term, "other than the determinant of the sādhya", means a partial or specific determinant of the sādhya, just as the kitchen-fire is a partial or specific determinant of fire. And when this term is taken in this sense, we find that whatever is negated on the hill, the substratum of the hetu smoke, is determined by both the determinant of the sādhya "knowable" and by the determinant of what is not the sādhya. If we say, water, as a knowable, is negated on the hill, we get knowability and water-hood as the determinants of the negatum negated in the substratum of the hetu. Hence the alleged objection fails.

Jagadīśa further points out that the term, "other than the determinant of the sādhya", may also mean the determinant af a feature which is not determined hy the determinant of the sādhya. Further a quality which exists in the sādhya but is not its determinant or connotation (i.e, an adventitius attribute of the sādhya) may not determine the negatum of a negation co-present with the hetu, but such a negatum should not be taken into consideration in the definition. When we consider the inference, "It has fire, as it has smoke", fire-hood determines the sādhya which has also the further quality of generating smoke. Now the negatum of a negation co-present with the hetu may not be determined by this quality, but such a negatum should not be taken to be negated in the substratum of the hetu to show that its non-determinant determines the sādhya. For even without such a negatum being negated in the locus of the hetu, invariable concomitance is possible. Further the definition in such a case does not apply to the inference "It is knowable, as it is namable", for the negatum which is not determined by jar-hood, cloth-hood, etc., which are also knowable, but are not the determinants of the sādhya in this inference, can not be negated in the substratum of the namable, every knowable being namable.

Still another view is possible when it is said that the non-determinant of the negatum negated in the substratum of the hetu should determine the sādhya. When the collective extensity (paryāpti) of the determinants of this negatum is not equal to that of the determinants of the sadhya, we also have the non-determinant of this negatum determining the sadhya. When the kitchen-fire is negated on the hill, the collective extensity of the determinants of the kitchen-fire is duality (kitchen-hood plus fire-hood) while that of the determinant of the sādhya 'fire' is unity (fire-hood). Hence unity which is not the determinant of the negatum negated on the hill is the determinant of the sādhya. But Jagadīśa disagrees with this kind of reasoning. For the determinant, for example, duality, in the relation of collective extensity. is absent in the kitchen as also in fire, but is present in the collection of the kitchen and fire and how can a determinant, which is not present in the individuals, be present in their collection ?. Thus according to Jagadīśa the kitchen-fire is a composite unity, but not a duality.

The above discussions show that even against the conclusive definition of vyāpti objections can be raised and the supporter of the definition must answer these objections. Let us consider a fresh objection ; To the inference, "It has the wielder of a stick, as it has the conjunction of the wielder of a stick", the definition does not apply, because according to Cālanī-nyāya (the principle of successive elimination), the stick is the determinant of the negatum of the negation co-existing with the hetu (the conjunction of the wielder of a stick) and the sādhya (wielder of a stick) is determined by stickness. To put the objection in clearer terms ; The ground is the locus of the hetu in the inference "It has the wielder of a stick, as it has the conjunction of the wielder of a stick" ; when a particular wielder of a stick is present on this ground, another wielder of a stick is negated there ; the negatum of this negation is the wielder of a stick ; this is determined by the stick ; stick-ness again determines the sādhya (the wielder of a stick) ; hence we do not get the non-determinant of the negatum of the negation copresent with the hetu, as the determinant of the sādhya and as such the definition does not apply to the inference undet discussion.

Rathunātha's reply to this objection is that in the inference, "It has the wielder of a stick, as it has the conjunction of a stick", the determinant of the sādhya is stickness in a mediated or indirect relation (paramparā-sambaddham dandatvam) and hence the definition is not guilty of narrowness. Jagadīśa clarifies this reply of Raghunātha. In the substratum of the hetu, there is not the negatiou of the wielder of the stick in the relation of the substratum-hood of the substratum of stickness (svāśrayāśrayatva-sambandha, stickness here stands for svam) and hence the definition is not involved in narrowness, In other words, the determinant relation of the sādhya (the wielder of the stick) is the substratum-hood of the substratum of stickness, as the stick is the support of stickness and the wielder of the stick is the support of the stick. But as the wielder of the stick is negated on the ground in the relation of conjunction and not in the relation of the substratum-hood of the substratum of stickness, the charge of narrowness fails.

But again objection may be brought forward: Though the determinant of the sādhya, in the above inference, is stick-ness in a mediated or indirect relation, yet the stick is negated on the ground which is the locus of the hetu and on which the wielder of the stick has sat. But stickness inheres in the stick and is not absent from the wielder of the stick. Hence the definition is not free from the fallacy of narrowness.

But this time also the objection misses its mark. For stickness determines the stick in the relation of inherence and the relation detetmining the sādhya is the substratum-hood of the substratum of stickness or stickness in a mediated or indirect relation. In fact, the non-determinant relation of the stick, which is negaed in the locus of of the hetu, determines the sādhya in this case and as such the definition is not faulty.

Jagadīśa points out in this connection that the modified definition of Raghunātha is freed from the charge of imcompleteness by the view that the determinant of the negatum negated in the locus of the hetu should not be determined by the relation in which the sādhya stands to the pakṣa. This means that if the relation determining the sādhya does not determine the negatum of the negation co-present with the hetu, then also the definition holds good.

This further modification saves the definition from the charge of narrowness in connection with the inference "It has colour, as it has earth-hood". Here the sādhya 'colout' exists in the relation of inherence, as colour is an attribute which inheres in a substance. In earth, the locus of the hetu 'earth-hood', there is the negation of colour in the relation of being objectified (viṣayīta), as an object bears this relation only to knowledge and to nothing elss. Hence the relation of inherence does not determine the negatum of the negation characterising the substratnm of the hetu, but is the determinant of the sādhya and as such the definition succeeds. The point to be specially noted here is that colour ipso facto is not negated in earth, but it is only through a particular relation that colour is so negated. Hence relation plays a very important part inRaghunātha.

Jagadiśa also cites another instance in which the determinant relation of the sādhya does not determine the negatum of the negation co-present with the hetu. "It has some of the colours of the genus colour, as it has colour". In this inference the substratum of the hetu 'colour' is the object having it and if this object is blue, then yellow or any other colour than blue is negated there. Now if yellow is negated, then its determinant is certainly not colour-hood through the relation of the substratum-hood of the genus in a particular individual. But this is the determinant of the sādhya, as an object cannot have all colours at the sametime and at the same place. In other words, colour, which is a generic attribute, is exemplified in one of its aspects in an object. Hencc the sādhya "some of the colours of the genus colour" exists as colour-hood through the relation of the substratum-hood of the genus in a particular individual (sva-nyuna-vrtti-jātyāsrayatva-sambandhena rūpatvameva sādhyatāvacchedakamiti). But the yellow is determened by the relation of inherence. Hence the non-determinant of the negatum of the negation co-present with the hetu, is the determinant of the sādhya and as such the definition well applies to the above inference.

In this inference, if we neglect the point of the difference of relation, yellowness (the essence of yellow) may determine the sādhya, as "some of the colours of the genus colour" may also mean the yellow colour, when the object is yellow. Hence the question of relation is a very pertinent one in Raghunātha.

One point is to be remembered in this connection. According to the majority of the logicians of the new School, the determinant relation of the sādhya in the inference, "It has the wielder of the stick, as it has the conjunction of the wielder of the stick", is not conjunction but the stick is the determinant of the sādhya. Bur according to Raghunātha neither the relation of conjunction nor the stick determines the sādhya. The determinant of the sādhya, on the contrary is stickness in a mediated or indirect relation. In other words, many logicians of the new School hold that the essence determining the sādhya in the said inference is stickness and the relation determining the sādhya is not conjunction but the substratum-hood determined by the personality having the stick (svavṛtti-puruṣatvāvacchinnādhikaraṇatā-sambandha), whereas Raghunātha thinks that the determinant essence of the sādhya is stickness in a mediated or indirect relation (Paramparā-sambandham dandatvam).

Thus the charge of narrowness against the definition in connecrion with the inference, "It has the wielder of the stick, as it has the conjunction of the wielder of the stick" does not stand on a sound basis. But again objection may be raised: To the inference, "It is a substance, as it has existence other than that of quality and action," the definition does not apply, as in the substratum of the hetu "existence other than that of quality and action," there is the negation of quality and action which are not negated in substance. To express the objection in a more simplified manner, quality and action are the negata of the negation co-present with the hetu; quality and action again inhere in substance and, therefore, substance-hood is not the non-determinant essence of them; but the sādhya is substance-hood; hence we do not get the non-determinant essence of the negatum of the negation, co-existing with the hetu, as the determinant of the sādhya and as such the definition is incomplete.

Raghunātha refutes this objection by the argument that as the specific existence of the hetu is absent in quality etc., the definition is not incomplete. In other words, the hetu having a specific existence other than that of quality and action, these latter have not the substratum-hood of the determinant of the hetu, i.e, specific existence does not determine quality and action. But specific existence other than that of quality and action determines the sādhya, as existence inheres in substance also. Hence the non-determinant of the negatum of the negation co-present with the hetu determines the sādhya and, therefore, the definition is absolved of the charge of narrowness.

It should be noted that in the above instance the substratum determined by the determinant of the hetu is not that of the negatum negated in the locus of the hetu. But accepting this way of interpretation a difficulty crops up. In the inference, "It has fire, as it has smoke," the determinant of the hetu 'smoke' is smoke-hood (dhūmatva). The substratum of smoke-hood again is smoke itself, Hence the substratum of the determinant of the hetu in this inference is not to be taken into consideration in determining Vyāpti.

This difficulty can be met, if it is recognised that the determinant essence of the hetu in such instances has the negation of both the non-determination of the substratum-hood of the hetu which is its support and the determination of any substratum-hood. In other words, smoke-hood, the essence of the hetu, is not the substratum of any thing. It, on the contrary, inheres in smoke. Hence in connection with the question of the negatum of the negation co-present with the hetu, being not determined by the substratum-hood specified by the essence of the hetu, or the question of any determination of any substratum-hood does not arise. This being the case, it is wise to accept, in this case, the substratum of the support of the essence marking out the hetu. In other words, smoke-hood, the essence of the hetu, has for its support smoke; the substratum of smoke is the hill, yard, kitchen etc; if our inference is, "The hill has fire, as it has smoke," then in the substratum of the hetu 'smoke', viz. the hill-fire, kitchen-fire is negated; hill-fire, thus, is the non-determinant of kitchen-fire but determines the sādhya 'fire' and as such the definition escapes from the alleged difficulty.

Thus when the determinant essence of the hetu does not mark out any substratum, we are to concentrate on the negatum negated in the locus of the hetu itself and see whether the non-determinant of such a negatum determines the sādhya. Invariable concomitance obtains when the sādhya so determined exists in the locus of the hetu.

A very pertinent question may be raised in this connection. The co-existence of the hetu with the sādhya which is determined by the essence which does not determine the negatum of the negation co-present with the hetu is invariable concomitance. But when the hetu admits of difference how can we have its invariable concomitance with the sādhya? Smoke, for example, may be different; we have hill-smoke, kitchen-smoke, yard-smoke, and so on; how then can we have the one universal proposition that smoke in general is the concomitant of fire in general?

The answer of Raghunātha to this question is that smoke-hood and fire-hood, which are present in every specific instance of smoke and fire, are universally related, but specific smokes and specific fires form separate propositions.[5] Jagadīśa's comment on the master, in this connection, is note-worthy. The practice of regarding the invariable concomitance of smoke and fire as one is due to the knowledge of fire-hood and smoke-hood and not through their inherence in objects (tathā ca vahnitva-dhūmatvādyanugamādeva tatra vyāpteraikyavyavahāro natu vastugatyā vyāpteraikyam). In fact, the consideration (Parāmarśa) in the inferencial conclusion is the knowledge of the invariable concomitant being exemplified in the subject of inference. We have the knowledge of invariable concomitance beforehand and when the concomitant is found in the Pakṣa, we connect it with the sādhya. Thus the real Vyāpti in the inference, "The hill has fire, as it has smoke," is between smoke-hood and fire-hood, and though fires and smokes may be different, the universal proposition that in all cases smoke-hood is the concomitant of fire-hood is one and the same. In other words, fire is inclusive (Vyāpaka) of smoke which contains smoke-hood and is co-present with the former and hence smoke, wherever it may exist, is the concomitant of fire. And thus from the knowledge that the hill is possessed of smoke (the hill-smoke may be a special type of smoke or an ass may co-exist with fire on the hill)[6] and that smoke-hood is the invariable concomitant of fire-hood and that smoke is included in fire, we have the inferential conclusion that the hill is fiery, because in the knowledge of the different types of smoke there is smoke-hood, just as in the knowledge of the blue jar there is jar-hood.

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[5] It may be noted that the Navya-Nyāya believes in the connotative interpretation of propositions, when it holds the view of the invariable concomitance of two universals like smoke-hood and fire-hood.

From the fore-going discussions it is clear that invariable concomitance is also the co-presence of the hetu with the sādhya which has the substratum-hood specified by the essence determining the hetu, In the inference, "The hill has fire, as it has smoke", the hetu 'smoke' is co-present with the sādhya 'fire' which has the substratum-hood of smoke in which smoke-hood inheres and this substratum-hood does not determine the negatum nagated in the locue of the hetu

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[6] The Naiyāyikas believe that the method of agreement cannot establish Vyāpti. An ass may be present, along with smoke, on the hill in a good many cases. But the ass is not the concomitant of smoke. This shows that the method of agreement fails to establish Vyāpti. But if we think that smoke-hood is the concomitant of fire-hood, then even if an ass co-exists with smoke in a number of instances, we should not suppose that ass is universally related to smoke.

'smoke'. Invariable concomitance obtains between smoke-hood and fire-hood and not between different types of smoke and fire. Smoke-hood qualified by the relation of co-presence with fire which pervades smoke is the invariable concomitant.[7] The cause of the inferential conclusion that the hill has fire, is the knowledge of the pakṣa having charater of this type, i.e., having smoke whose essence 'smoke-hood' is pervaded by the essence of fire, i.e., fire-hood (tatprakārikaiva-pakṣa-dharmatādhīranmitihetuḥ).[8]

Raghunātha thus establishes that invariable concomitance obtains between the essence of the hetu and that of the sādhya and though the hetu admits of variation, the universal proposition in which the essence of the hetu is the subject and that of the sādhya is the predicate' is one and the same. Now he discusses the implications of the negatum of the negation co-existing with the hetu as having a substratum different from that of its negation. If this negatum is not definitely stated to have a different locus from that of its negation then the definition does not apply to the inference, "It has the conjunction of monkey, as it is this tree, i.e., as it has the essence-this-tree". For this tree (which contains the essenee-this-tree) the substratum of the hetu, has the negation of monkey-conjunction in the root, and the determinant essence of monkey-conjunction, the negatum of this negation, determines the sādhya 'the conjunction of monkey'. But if the negatum negated in the substratum of the hetu, has a different locus from that of its absence, then we can no longer speak of the negation of monkey-conjunction as both monkey-conjunction and its negation have the same substratum 'this tree'. We should, an the contrary, think of some other negation, say, the negation of the jar, in this tree. The negation of the jar characterises this tree, the jar has a different substratum and jar-hood does not determine the sādhya, the conjunction of monkey (to speak in the line of the original definition); or the essence of the conjunction of monkey is the nondeterminant of the essence of the jar (to follow the modification of Raghunātha).

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[7] Vamacarana Bhattacarya's Vivṛiti of Jāgadīśī. Jāgadīśī-Siddhāntalakṣaṇam, Beneres, p. 41. "Dhūmavyāpaka-vahnisāmānādhikaraṇyasya sāmānādhikaraṇya-sambandhena viśiṣṭam-yatdhūmatvam tadeva vyāptiri-tyatthaḥ."

[8] Ibid. Jāgadīśī.

Just as the definition applies to the inference, "It has the conjunction of monkey, as it ir this treee", so it applies to the inference, "It has conjunction. as it has substance-hood", only because the negation of the negation, co-existing with the hetu, has a different substratum from that of its negation. If the same negatum has not a locus different from that of its negation, then the definition is narrow. For in the inference, just mentioned, the hetu 'substance-hood' has for its substratum substance in which there is the general negation of conjunction and also the existence of conjunction and conjunction is the determinant of the sddhya. To answer the question, how there can be the general non-existence of conjunction in substance, when there is the conjunction of ether in every part, root and branch, of a substance, say a tree, Raghunatha brings in a lot of discussion. There can be the general non-existence of. conjunction of tree-hood (Vṛkṣatva), when there is the conjunction of the branches etc.[9] In other words, there may be conjunction of objects with the tree, but the essence of the tree or tree-ness stands in the relation of inherence and not in conjunction and hence there is the general negation of conjunction of treeness or the essence of the tree. Here Jagadīśa points out that the difference of determinants can bring affirmation and negation together.[10] When the determinant or the relatum of the relation of conjunction is treeness, there is its negation, but when the determinant or the relatum is the root and branch, there is its affirmation,

Thus there is the general negation of conjunction of treeness in the tree.[11] This negation has contact with the supersensuous and is not perceived by the sense organs, because whenever there is the sensuous perception of any part of the tree, there is the preception of its conjunction at least with ether. It cannot be said that the cause of the non-perception of the general negation of conjunction in the tree, is the non-apprehension of conjunction in all parts of it, for the general negation of conjunction is never perceived by the ordinary senses in a substance.

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[9] Dīdhiti.

[10] Jāgadīśī, p. 47 Jāgadīśī Siddhānta-lakṣaṇam, Beneras.

[11] If there is the negation of conjunction in general of treeness, there is also its negation in the tree, as such a negation is universal. Treeness nowhere exists in the relation of conjunction,

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Nor can we have the inferential knowledge of the general negation of conjuncction, i.e., negation of all conjunction, from the universal proposition what is possessed of all the particular negations of a negatum, is possessed of the general negation of that negatum",[12] for the meanings of the two do not concur and the limiting adjunct of the possession of all the particular negations is unity.[13] Jagadīśa's elucidation of the implications of this controversy will clarify the issue. The meaning of "what is possessed of the general negation of that negatum" should be the following in order that there may not arise the fallacy of the of the unfoundedness of nature (Svarūpāsiddhi).[14] That which possesses all the particular negations of a class which is determined by a particular relation and by the essence which is its own and of no second object, possesses the the general negation of that class as determined by that relation and that essence.[15] Conjunction has for its substratum substance, say a tree. Let us take only the negation of one species of conjunction in the tree, say, the negation of the conjunction of quality. Quality stands in the relation of inherence. Now if there is the negation of conjunction of all qualities, which are determined by the relation of inherence, in the tree, then there is the general negation of theconjunction of quality in the tree. This interpretation is free from the fallacy of unfoundedness of nature (Svarūpāsidhi). For though the Pakṣa 'tree' does not possess the negation of all conjunction, yet it may possess the negation of one type of conjunction, say, of quality, But if by the hetu, "what is possessed of all the particular negations of a negatum" we mean the negation of all conjunction, then the Pakṣa certainly does not possess the hetu, as there is not the negation af all conjuuctions in it and as such the fallacy of svarūpāsiddhi is bound to occur.

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[12] This is the view of Udayana as pointed out by Jagadīśa.

[13] Dīdhiti.

[14] The fallacy of unfoundedness of nature (svarūpāsiddhi) occurs when the hetu does not characterise the pakṣa, for example, the lake is a substance, as it has smoke. Here the hetu 'smoke' does not exist in the Paksa 'the lake.'

[15] Vide Jāgadīśī, p. 48. Jāgadīśī-Siddhānta-lakṣaṇam, Beneras. (ya yajjātisamānādhikaraṇobhayāvṛtti-dharmāvaccbinna-yatsambandhāvacchinna-pratiyogitāka-yāvatabhāvavān sa tajjātyāvacchinna-tatsambandhāvacchinna-pratiyogitākābhāvavān).

Thus the hetu in the inference, "It has the general negation of a negatum, as it has all the particular negations of that negatum", should mean the negation of one species only like the negation of the conjunction of quality or existence, or of somethig else and on account of this there does not arise the fallacy of svarūpāsiddhi. But this does not save the inference from other fallacies, for example, the fallacy of the unfoundedners of concomitant-hood of the useless adjective type (vyarthaviśeṣanatva).[16] For the sādhya, the general negation of conjunction, should have for its concomitant the hetu, the negation of all particular conjunctions, and not the negation of all particular conjunctions of quality, or existence. Here quality or existence is superfluous or useless. Yet the interpretation that the hetu in the above inference means the negation of all the particulars of one species is not futile, for according to Pakṣadhara Miśra the famous commentator of the Tattva-cintāmaṇi, the prevention of unfoundedness (asiddhi) is also a prevention of the violation of Logic.

From the foregoing discussions it is elear that the limiting adjunct of the possession of all the particular negations of conjunction should be unity when we consider the infetence. "It possesses the general negation of conjunction, as it possasses all the particular negations of conjunction". But if the hetu "the possession as all the particular negations of conjunctions", is taken as it is, then the inference is implicated in the fallacy of svarūpāsiddhi. But to avoid svarūpāsiddhi, if we append an adjective to the hetu (i.e., if the hetu be the possession of all the particular negations of the conjunction of quality or existence), then as Raghunātha points out, the fallacy of Vyartha-viśeṣaṇatva creeps in. Hence the inference, "It has the general negation of conjunction, as it has all the particular negations of conjunction", is futile.

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[16] The fallacy of unfoundedness of concomitant-hood (vyāpyatvāsiddhi) occurs when the hetu has a limiting adjunct, e.g, "It has smoke, as it has fire supported by wet fuel." It has there varieties according to the New School. These are: (i) The unfoundedness of the determinant of the sādhya, e.g., "The hill has golden fire, as it has smoke;" (ii) the unfoundedness of the hetu., e.g., "The hill has fire, as it has golden smoke;" (iii) the hetu having a useless adjective e.g, the hill has fire, as it has blue smoke.

Jagadīśa, howeve, thinks that the fallacies of svarūpāsidhi and vyartha-viśeṣaṇatā can be avoided, if the inference, "It possesses the general negation of conjunction, as it possesses all the particular negations of conjunction", means "It possesses the genegal negation of conjuncion of a class, as it possesses the negation of all the particulars of that class". Rahunātha, however, does not interpret the proposition "what is possessed of all the particular negations of a negatum is possessed of the general negation of that negatum" in this line and thinks that the inference following from this universal proposition is involved in logical fallacies, as by the possession of all the particular negations of a negatum is meant the possession of all the negations, say, of conjunction and not of all the negations of the conjunction of quality or existence or any other thing.

Thus the general negation of conjunction does not follow inferentially from the premise "what is possessed of all the particular negations of a negatum is possessed of the general negation of that negatum". But it may be argued that the general negation of conjunction of treeness can be deduced from the universal premise, "That which is the non-determinant of an essence is the determinant of the negation of that essence".[17] In other words, treeness is the non-determinant of conjunction; hence treeness is the determinant of the negation of cunjunction, i,e,, there is the negation of conjunction of treeness. Raghunātha disagrees with this argument also. The above universal proposition, as he points out, is no universal proposition at all, as there is exception to it. Knownness or knowability (Prameyatva), for example. is the non-determinant of quality when there is its negation; but it (knownness) is not the determinant of the negation of quality i.e, quality is not negated in relation to knowability when quality is known.

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[17] Jāgadiśi, p. 63, Sidhānta-lakṣaṇam, Beneras.

But again it may argued that the conclusion that treeness is the determinant of the general negation of conjunction well follows from the special universal proposition (viśeṣa-vyāpti) "That which is the non-determinant of conjunction in general is the determinant of general negation of conjunction". But this argument also does not stand logical scrutiny. For knownness is the determinant of the negation of quality in general, when the latter is not known, but knownness as the Pakṣa does not possess the hetu, the non-determination of quality in general, under all circumstances. Hence there is the fallacy of svarūpāsiddhi.

Some thinkers of the Old School, however, go to the length of asserting that the non-determination of conjunction iu general can never exist in a substance like the tree and any such inference having the non-determination of conjunction as the hetu is bound to be involved in the fallacy of svarūpāsiddhi. The reason offered for the non-existence of the non-determination of conjunction in a substance is that as stick-hood determines the previous state of the jar's coming into completion, though sticks may be different, or as smoke-hood determines fire in general, though smokes may be different, so substance-hood is the determinant of conjunction in general, though conjunction in different parts of a substance may be different.[18]

Thus according to this view a substance like a tree is never without conjunction. But the New School does not accept this view. According to it there is the general negation of quality in the jar at the time of its coming into being and the general negation of conjuction in ether in Dissolution.[19] The jar at the time of its creation is not yet the jar and as such it lacks the quality of the jar at such a state. Similarly, in Dissolution all objects are destroyed and hence the question of the conjunction of objects to ether does not arise in Dissolution. It proves that with a proper determinant there can be the negation of conjunction in a substance. There is, for example, the negation of treeness in a substance. Likewise there can be the negation of burning in the substratum of smoke say, the hill. When there is fire towards the lower region of the hill and not on its peak, there is the negation of conjunction of fire on the peak of the hill. Thus existence in conjunction may be partial. And existence being partial, the existent cannot be pervasive,[20] Here there can be the negation of substance in conjunction under certain circumstances. In the same way though space and time are the substrata of objects, yet there can be the negation of them with the difference of space and time. Thus though the jar exists in time, yet when we make the proposition "Now tbe jar does not exist on the cloth", there is the negation of the jar in the cloth at the present time. Similarly, though the half of the jar is possessed of the jar, yet at the state of the destruction of the jar there is the knowledge that "the jar does not exist in this half of the jar now', and as such the general negation of the jar in its half, as determined by that time, is obtained,[21]

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[18] Dīdhiti.

[19] Nabināstu-"Utapattikālāvacchedena ghatādau guṇasya, Pralayāvacchedena gaganādau saṁyo-gasya, samanyābhāvo varttate. Didhiti.

Thus there can be the negation of conjunclion in a substance, for example, the tree, as determined by treeness. Now in the definition it is stated that the negatum negated in the substratum of the hetu should have a differenl substratum from that of its negation, in order that the definition may apply to such inferences as, "It has conjunction, as it has substance-hood", "Time has the jar, as it has the present moment-hood", "The hill has fire, as it has smoke" and so on. In the first inference, the substratum of the hetu "substance-hood" is substance in which there is the negation of conjunction (under a specific circumstance). But the non-deteminant essence of conjunction cannot determine the sādhya 'conjunction'. On the contrary, if we accept the proposition that the negatum negated in the locus of the hetu should have a different locus from that of its negation, then we can no longer select the negation of conjunction to be characterising the substratum of the hetu, as conjunction has the same substratum (viz, substance) as its negation, when there is the negation of conjunction in substance. We should pick up some other negation the negatum of which has a different locus. There is, for example, the negation of the existence other than that of substance in substance. This existence other than that of substance has certainly a substratum different from substance. New the non-determinant of this existence other than that of substance is substance which is the determinant of the sādhya 'conjunction'. Thus the definition well applies to this inference, when the negatum negated in the substratum of the hetu has a different substratum from that of its negation.

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[20] Vṛtteravyāpyavṛttitve-Vṛttimato Vyāpyavṛttitvasyātyantamasambhavitatvacca, Dīdhiti.

[21] Jāgadīśī, p. 68. Jāgadīśī-Siddhānta-Lakṣaṇam, Beneras.

Likewise when we consider the inference, "Time has the jar, as it has the present-moment-hood (etatkālatva)", there may be the negation of cloth (at this place) at the present moment (the substratum of the hetu 'present' moment-hood) and jar-hood, the non-determinant of cloth, determines the sādhya, the jar. Here cloth which is negated at the present moment (at this place) certainly has a different substratum from the present moment. Similarly in the inference, "The hill has fire, as it has smoke", the kitchen-fire is negated on the hill, has a substratum different from the hill and the non-determinant of kitchen-fire, the hill-fire, determines the sādhya fire.

But in every instance the adjunct that the negatum negated in the locus of the hetu should have a different substratum ftom that of its negation (Pratiyogi-vaiadhikaraṇyam), is not necessary. In some cases this adjunct is superfluous. Consider for example, the inference, "It has the inherent, as it has substance-hood". Here the substratum of the hetu 'substance-hood' is substance. In substance there is never the general negation of the inherent (as there is always the inherence of quality or the generic attribute in substance), i.e., the sādhya, in herent, is always found in substance. In other words, the sādhya here is of complete extensity (Vyāpya-vṛtti), There is inherence in every substance every where and every when, or in all cases substance has the inherent. This is a simple case of invariable concomitance where the adjunct that the negatum negated in the substratum of the hetu, should have a different substratum from that of its negation, is superfluous. And in this connection Jagadīśa points out that the same adjunct is superfluous in cases of sādhyas which are of complete extensity (Vyāpya-vṛtti) and which are determined by the essence and relation in which they are of complete extensity[22]. In the above inference the sādhya, the inherent, exists through the relation and essence of inherence and it pervades completely the substance in the same relation and essence. Jagadīśa here raises discussions to clarify the exact meaning of Raghunātha's proposition that the adjunct (that the negatum negated in the substratum of the hetu shoul have a different substratum) is not necessary in all inferences in which the sādhya is of complete extensity,[23] He points out that though the definition, minus the adjunct under discussion, holds good generally in the inference in which the sādhya is of complete extensity, yet it can be freed from narrowness in the case of the inference, "It has existence, as it has a generic attribute*", in which the sādhya is of complete extensity, only by holding that negation abides in its locus only in self-relation (svarūpasambandha). But sticking to the view that negation holds only svarūpa-sambandha to its locus, the definition becomes too-wide being applied to a wrong inference like, "It has the non-existence of substance-hood, as it has existence".[24] To explain it fully: In the inference, "It has existence, as it has a generic attribute", the sādhya is of complete extensity. There is the negation of existence through time relation in the substratum of the hetu, generic attribute. Existence again is the sādhya. Hence the definition does not apply to this inference. To this objection it may be replied that negation abides in its substratum only in self-relation and not in time relation or in any other relation and as such the objection does not stand. But if we stick to the view that negation bears only self-relation to its substratum, then the definition applies to the fallacioos inference, "It has the negation of substance-hood, as it has existence" and thus turns to be too-wide. For in the substratum of the hetu 'existence', there may be the negation of the jar in self-relation and the non-determinant of the jar is also the sādhya the negation of substance-hood. Here we are not necessarily forced to stick to the view that the definition does not apply to this inference, because substance-hood which is the negation of the sādhya (the negation of substance-hood) inheres in substance, the substratum of the hetu 'existence'. For accepting the hypothesis that negation bears no other relation than svarūpa to its substratum, we can show the applicability of the definition to the above fallacious inference.

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[22] Yena rūpeṇa yena sambandhena ca yat vyāpya-vṛtti tenasambandhena (tena rūpeṇa) tatsādhyattam nopādeyamityarthaḥ. Jāgadīśi, p. 71. Ibid.

[23] Dīdhiti. Raghunātha here also differes from Gangeśa who makes no provision for exception so far as the adjunct is concerned.

[24] Jāgadiśi, p. 73, Jāgadisi-Siddhānta-Lakṣaṇam, Beneras,

It may be replied against this objection that the negation of the negation of substance-hood is a negation pure and simple, so that we do not get substance-hood by its negation of negation. And this being the ease there is the negation of the negation of substance-hood in substance the locus of the hetu in self-relation. Thus there is the negation of the sādhya in the substratum of the hetu and as such the definition does not apply to the above wrong inference.

The objection against this reply is that Raghunātha in this discussion on negation does not hold the view that the negation of negation is negation pure and simple. On the other hand, he admits the negation of the negation of a positive object to be a positional negation. (Vide Introduction). The negation of the negation of the jar is the jar; but as the jar is posited by a negation (of a negation), it (the jar) may be called here a positional negation (bhāva-rūpa-abhāva).

But even if we stick to the view that negation of negation is negation and not a positional negation, the definition does not apply to the inference, "It has the negation, in time relation, of the negation of jar-hood, as it has ether-hood."[26] Here the sādhya, "The negation of the negation of jar-hood" exists in its substratum in self-relation. Now there is the negation of the negation of the negation of jar-hood in ether (as jar-hood inheres in jars and not in ether) the substratum

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25 As on quality, the substratum of existence, the jat does not exist as the jar.

* Sattvāvān jāteḥ, Substance, attribute and action have the jāti (the universal or the generic attribute) inherent in them and so they possess the being of the universal in addition to their own being.

26 Here the substrata of both jar-hood and ether-hood are implied, so that the inference is correct, as the jar (the negation of the negation of jar-hood, i.e, the jar) exists in ether.

of the hetu. By these negations we get the negation of jar-hood and this negation is determined by self-relation. But the determinant of the negatum of this last negation determines the sādhya "the negation of the negation of jar-hood." Hence the definition does not apply to this inference.

The difficulty in connection with the above inference is due to the view that the negation of negation is pure negation which is determined by self-relation. But if the negation of the negation of jar-hood is taken as a positional negation, then the sādhya, 'the jar' always exists in ether in the relation of conjunction and as such we get the inariable concomitance of ether and the jar.

But it may be pointed out that the negation abiding in the substratum of the hetu is to be determined by the relation counteracting the knowledge of the substratum of the sādhya which is determined by the relation in which it (the sādhya) exists in the Pakṣa and in that case the definition will be freed from incompleteness. Unfortunately even this modification does not save the definition from narrowness, as it does not apply to the inference, "It has the negation of substance-hood, as it is the universal or generic attribute." Here the sādhya, "the negation of substance-hood," exists in its substratum in self-relation; the relation counteracting the knowledge of this substratum-hood is, for example, inherence. Now the negation of the negation of substance-hood may be taken to exist in substance, the substratum of the hetu "generic attribute," in the relation of inherence. But the negatum of this negation is the sādhya itself. Hence the definition does not apply to this inference.

Of course the definition can be shown to be applicable to this inference, by holding that the counteracting relation of the knowledge of the negation of the generic attribute, as determined by self-relation, is again self-relation in which the negation of the negation of the generic attribute exists and by taking the negation of the negation of a positive category to be a positional negation. The substratum of the hetu "generic attribute" is, for example, substance in which there is the negation of the negation of substance-hood in self-relation. Now substance-hood is the negatum of this last negation which is a positional negation. The non-determinant of this negatum is the negation of substance-hood which is the sādhya. And this is what the definition demands.

The upshot of all these discussions, as Jagadīśa points out, is that Raghunātha understands, by the term complete extensity, here (i.e. in connection with the non-requirement of the adjunct, "The negatum negated in the substratum of the hetu should have a different substratum," in the case of inferences in which the sādhya is of complete extensity) every negative sādhya which exists in its substratum in the relation which determines it. And in cases of affirmative sādhyas which are of complete extensity, only those inferences do not require the adjunct (the negatum negated in the substratum of the hetu should have a different substratum) which have their sādhyas determined by the relation and essence in which they are pervasive of the locus of the hetu. In other words, some inferences in which the sādhya is affirmative and completely extensive and all inferences in which the sādhya is negative, but exists in its substratum in the relation determining it, can dispense with the adjunct. Thus the real meaning of Raghunātha's proposition that the adjunct is not necessary in all cases of inferences in which the sādhya is of complete extensity is that some such inferences have a valid vyāpti even without the adjunct, i.e., some such inferences do not require the adjunct. Indeed, logically, if the subject of a negative proposition is qualified by "all" then the proposition is particular negative or 'O'.

Thus the adjunct, "The negatum negated in the substratum of the hetu should have a different substratum" is indispensable in some cases and in some cases irrelevant. And this is quite possible, because the difference of the sādhya and the hetu makes the Vyāpti different (sādhya-sādhana-vedena Vyāptirbhedāt). But where the adjunct is unavoidable, the difference of the substratum of the negatum from that of its negation should be taken to mean the non-existence of the negatum, as determined by its essence, in the locus of its absence.[27] This interpretation saves the definition- from being too-wide. Let us take the fallacious inference, "It has specific existence other than that of quality and action, as it has a generic attribute' and "It has both atomicity (Bhūtatvam) and grossness—[28] (Mūrttatvam), as it has grossness." To take the first inference, the definition does not apply to it, because in quality and action, the substrata of the hetu, there is the negation of specific existence other than that of quality and action as such specific existence. In other words, existence other than that of quality and action is specific existence inhering in substance. This existence inhereing in substance has certainly not for its substratum quality or action. Similarly, the substratum of the hetu in the inference, "It has both atomicity and grossness, as it has grossness," may be ether or some other finite body. Let this substratum be a jar. Now in the jar there is the negation of both atomicity and grossness (the sādhya) at the time of its coming into existence, as atomicity or bhūtatvam means the substratum-hood of a specific quality in some thing other than the self (ātmanyatve sati viśeṣaguṇavatvam) and mūrtatvam or grossness means the possession of a determinate quantity (avacchinna-parimāṇavatvam). Here atomicity and grossness do not exist in the jar, as determined by these specific essences or meanings.

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[27] Dīdhiti.

The Sārvabhauma school, on the contrary, holds that the definition does not[29] apply to the above inference normally, if the negatum negated in the substratum of the hetu has a different substratum from that of its negation; therefore, the modification that the same negatum should be absent in the locus of its negation being determined by its own essence, is superfluous. The reason advanced for this argument is that the duality of atomicity and grossness is nothing but grossness qualified by atomicity and this, being different from grossness alone, automatically does not exist in its (grossness) substratum.

Raghunātha refutes this argument by holding the view that the duality of atomicity and grossness is something more (atirikta) than grossness qualified by atomicity, i.e, the duality of two entities is not the same as the one being qualified by the other. Similarly, the negation of two entities is not the negation of one qualified by the other. The negation of jar-hood and that of cloth-hood are perceived as two negations, and in this perception jar-hood is not qualified by cloth-hood. Thus the negation of two entities is not the same as the negation of one qualified by the other.

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[28] The inference is fallacious, beeause the generic attribute or the Universal exists in substance, quality and action,

[29] The reference is to Kṛṣṇadāsa Sārvabhouma who wrote a sub-commentary on the Dīdhiti and also another sub-commentary on Jaydeva's commentary on the Chapter on inference. Though he was much later than Raghunātha, yet Raghunātha, ancicipated his view and refuted it. This view of Kṛṣṇadāsa occurs in his Anumāna-Dīdhiti-Prasāriṇī, p. 144.

Raghunātha also refutes another suggestion in this connection that there is invariable concomitance between grossness (Mūrttatva) and the duality of atomicity (bhūtatva) and grossness, as grossness, which is the locus of both (atomicity and grossness), exists in the mind. This suggestion is refuted on the ground that in the mind, the duality of atomicity and grossness does not exist as duality and that the knowledge of the negation of such duality is irrestible there.[30]

Thus the adjunct "the negatum negated in the substratum of the hetu should have a different substratum from that of its absolute negation" is explained. Let us now bring out the implications of the term "absolute" (atyantapadam), when it is defined that invariable concomitance is the co-existence of the hetu with the sādhya which is determined by the non-determinant of the negatum having a different substratum from that of its "absolute" negation which characterises the substratum of the hetu. In other words, it is said that the sādhya should not be determined by the essence of an object which has *absolute negation* in the locus of the hetu. This definite mention of "absolute negation" proves that the sādhya should not be determined by the essence of the object which has only absolute non-existence in the locus of the hetu and not reciprocal non-existeuce.[31] If we omit the adjunct "absolute" here, then we can select any negation co-existing with the hetu and in that case the definition does not apply even to the stock example of inference, viz. "The hill is fiery, as it has smoke." For the hill, the substratum of the hetu 'smoke', has reciprocal negation with fire (i.e., fire is not the hill) and the sādhya being, at the same time, fire, there occurs avyāpti. In fact, if the sādhya is to be determined by the non-determinant of the object which is different from the locus of the hetu but, not absolutely negated there, then the negatum negated in the locus of the hetu has not its locus different from the locus of the hetu.[32] When we consider the inference, "The hill has fire, as it has smoke," the hill, the locus of the hetu 'smoke,' is different from fire and fire exists on the hill. But according to a particular school, the definition does not apply to inferences whose sādhya is negative, even if the sādhya is determined by the non-determinant of the negatum of the *absolute negation-co-present with the hetu.*—Consider, for example, the inference, "it has reciprocal negation with the jar, as it is cloth-hood." Here the absolute negation of cow-hood also has a different substratum from that of its negation. But the negation of cow-hood is different from the difference or reciprocal negation of the jar, and by simple converstion, the difference of the difference of the jar is the negation of cow-hood. Hence the sādhya "the difference of the jar", which is the negatum of difference of the difference of the jar, is also a negatum of the negation of cow-hood and as such the definition does not apply to this inference and, therefore, is narrow.

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[30] Didhiti. p. 87-88. (Jāgadīśī-Siddhānta-Lakṣaṇam), Benares.

[31] Didhiti.

It further follows from the view of the school just referred to, as Jagadīśa, points, out, that in the inference whose sādhya is negative,[33] the negatum of the absolute negation co-existing whit the hetu need not have a different substratum. Consider, for example, the inference, "It has the negation of the jar which existed at the last moment, as it is cloth-hood". Here the negation of the jar exists in the substratum of the hetu and the negation of the negation of the jar, i.e., the jar also existed there. Hence the jar, the negatum of the negation co-existing with the hetu, has not a different substratum and yet jar-hood does not condition the sādhya, "the negation of the jar which existed at the last moment".

The above two objections of the particular school of Logicians referred to show that, according to it, the non-determination of the negatum of an absolute negation is not necessary in the inferences whose sādhya in negative. And if we accept the opinion of thэ Old School (that absolute negation and destruction are not the same) we can go further and say that to insist that the sādhya should be determined by the non-determinant of the negatum of an absolute negation co-existent with the hetu is to force the definition to be too-wide. Consider, for instance, the fallacious inference, "whenever there is cowhood, there is cow" (the inference is fallacious because cow-hood, which is an eternal generic attribute, exists in time relation in dissolution, but a cow being a-finite produced object, does not exist in dissolution). Here, according to the Old School the cow being destroyed in dissolution, there is destruction in it and not absolute negation. Thus dissolution, which is a substratum of the hetu 'cow-hood' in time relation, is not the substraum of the absolute negation of cows. Hence the substratum of the hetu, in this case, contains the absolute negation of the absolute negation of the sādhya "cow", i.e., the substratum of the hetu contains the sādhya and as such there arises ativyāpti.

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[32] The definition demands that the negatum negated in the substratum of the hetu should have a different substratum from that of its negation (Pratiyogi-vyadhikaraṇa-abhāva).

[33] Jāgadiśī-Siddhānta-Lakṣaṇam, p. 93., Beneres.

But it may be objected against this view of the Old School that the definition is not really too-wide, for nothing opposes the absolute negation of the cow to characterise dissolution which contains the destruction of the cow in time relation, though there may not be the absolute negation of the cow in the substratum of the destruction of the cow in space relation.

The reply against this objection is that according to the opinion of the Old School dissolution is a substratum of the destruction of the cow in space relation even as the ground is such a substratum in the same relation.. In fact, the Old School thinks that destruction can abide in time in self-relation (svarūpa-sambandha), just as it can abide in space (i.e., ground etc.) in that relation. This view of the Old School has an echo in Pakṣadhara Miśra. He suggests that sound being non-eternal, there is the perception of the destruction of the touch of air in time which is united with the skin through self relation or the relation of adjectivity.[34]

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[34] Tvaksamyuktakāle viśeaṣaṇatayā Vāyusparśanāsasya grahah ṣabdānitya-

Pakṣadhara suggests in this connection that the term absolute negation in the definition of invariable concomitance given by Gangeśa means the negation other than reciprocal negation (samsargābhāva). And accepting this meaning the definition does not apply to the inference, "Whenever there is cow-hood, there is cow" and thus is not too-wide. It does not apply to this inference, because in dissolution (the substratum of the hetu), there is the destruction of the sādhya "cow".

But it may be objected here that the sādhya stands in time relation in the above inference and the negatum of the negation, in dissolution, is not determined by this relation, and hence the negatum negated in the substratum of the hetu does not condition the sādhya and the result is that the definition applies to this fallacious inference.

The reply to this charge is that the object negated in the substratum of the hetu should not exist here in the relation other than that determining the sādhya and the negatum of the negation which is destruction is also undetermined by the relation other than that determining the sādhya.[35]

Thus Pakṣadhara's position is that the absolution negation mentioned in the original definition of Gaǹgeśa is equivalent to negation other than reciprocal negation (samsargābhāva). Raghunātha objects to this interpretation. He points out that even if we take the absolute negation, mentioned in the definition, to be equivalent to samsargābhāva, the definition applies to some wrong inferences and, therefore, turns to be too-wide. Consider, for instance, the wrong inference, "Whenever there is motion, there is the dyad", or "It has the dyad, as it

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tāyām Miśrairukta. (Jāgadīśī, p. 95). Ibid. The idea of Pakṣadhara is this: Sound which abides in ether is produced in the ear through air and is perceived. This sound is transitory, as "we have the notion that the sound 'ka' is produced, and the sound 'ka' is destroyed" (Bhāṣāpariccheda of Viśvanātha verse 167). And when sound is destroyed, there is the perception of the negation of the touch of air in the relation of adjectivity or svarūpa.

[35] The idea is that both the sādhya and the negatum of the destruction of cows are cow and hence the relation other than that determining the sādhya does not determine the said negatum.

has motion".[36] Here the substratum of the hetu 'motion' may be partial dissolution and in partial dissolution there is the antecedent negation of the dyad of the next evolutionary level. The result is that there is the negation of the destruction of dyad-hood in partial dissolution and as such the definition applies to this inference.

But it may be argued that at the third moment preceding complete dissolution i.e., when the dyad dissolves into the monad, there is the destruction of dyad-hood, but motion with the monad still remains. Hence in the substratum of motion (the hetu), there is the negation of the sādhya, the dyad, and as such the definition does not apply to the wrong inference, "It has the dyad, as it has motion".

By way of reply Raghunātha cites another fallacious inference where the definition applies if absooute negation in the definition is taken as samsargābhāva. Let us consider, for example, the wrong inference, "It has limited knowledge or misery, as it has unseen results (of past actions)" :

In partical dissolution (which may be the substratum of unseen results) there is the antecedent negation of finite knowledge or misery. Hence there is the negation of the destruction of finite-knowledge-hood or misery as such in partial dissolution and therefore the definition applies to this fallacious inference.

But again it may be contended that the moment preceding complete dissolution may be the substratum of the hetu "unseen results" and in it there is the destruction of misery as such (i.e., there is the negation of the sādhya) and as a result the definition does not apply to this wrong inference.

As an answer to this, Raghunātha brings in a third fallacious inference where the definition applies, if the view of Pakṣadhara (i.e., absolute negation in the definition means samsargābhāva or negation other then reciprocal non-existence) is accepted. "It has his knowledge, as it has his unseen results". The definition applies to this inference, because in dreamless sleep there is the antecedent negation of knowledge and hence there is the negation of the destruction of knowledge-hood.

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[36] The inference is wrong, as in partial dissolution, the dyad is dissolved, but motion remains. For the Nyāya-Vaiśeṣika account of dissolution (pralaya), vide, conception of Matter according to Nyāya-Vaiśeṣika, p. 263-265, by— Dr. U. Mishra.

Rāghunātha further points out in this connection that it cannot be said that in time i.e., partical dissolution, there cannot be antecedent negation and destruction of a universal, when a particular antecedent negation or a particular negation which is destruction abides in it; for there can be absolute negation in time or partial dissolution just as there can be affirmation or destruction in it. Otherwise absolute negation (of cows etc,) is to be taken to be non-existing in time i.e., partial dissolution (in space relation, according to the Old School).[37]

Jagadīśa's comments in this connection may be noted. It may be argued that there is no proof that a generic attribute like cow-hood is destroyed, for when we say that the cow is destroyed, the negatum of this negation which is destruction is the cow and not cow-hood. The negatum of an absolute negation or a reciprocal negation, on the contrary, may be a generic attribute like cow-hood. When, for example, we do not possess the knowledge of cow-hood, we are sure that we have the difference or reciprocal negation of cow-hood.

The reply to this is that though it is true that when we do not know that it possesses that cow-hood, it has the negation of that cow-hood, yet it does not follow from it that like the absolute negation of that cow, the destruction of that cow also requires a negatum determined by that cow-hood. For as in the knowledge that it has the cow in the relation of conjunction, there is the opposition or prevention of the negation whose negatum is the cow as determined by the relation of conjunction, so the negatum of destruction being undetermined by relation, the substratum-hood of the negation of cow-hood, which is determined by a specific relation, has the negation of destruction in general. In other words, the negatum of destruction cannot be a generic attribute.

The idea here is that it is not necessary that there should be the antecedent negation and destruction of generic attributes, for in the substratum of these there can be absolute negation. In other words, the force of the objection that there cannot be antecedent negation and destruction of generic attributes is that at their substratum there connot be absolute negation which can be the negation of a generic attribute. The reply to this objection is that in time there can be antecedent negation, destruction, absolute negation and affirmation.

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[37] Didhiti, p. 100-103. Ibid.

But the question may be asked that if time can contain an affirmation as well as its absolute negation, why do we not perceive the cow, when we have the knowledge that "now the cow does not exist"? The answer is that the time containing an entity has the absolute negation of that entity, when a particular portion of space is unoccupied by that entity. The time containing destruction, on the other hand, has abolute negation determined by its own nature (svarūpāvacchinnam), i.e., the substratum of destruction has absolute negation by its very nature.

But objection may be raised that in the proposition, "Now there is not cow-hood in the horse", there is the negation of cow-hood now or at the present moment in the horse and hence space does not necessarily exist in time. The answer to this is that just as there is time in space, so there is space in time, i.e., space and time determine each other, because space being apprehended or felt (anubhūyamānatvena) is contained in time. In other words, the very fact of the immediate experience (anubhava) of space is a definite proof that space has existence in time. Otherwise, one could argue from the proposition. "Now the cow does not exist in this house," that this house, which has the absolute negation of cow, is not determined by time.[38]

But if this view of space and time[39] is accepted, then it may be objected that the definition of invariable concomitance or Vyāpti turns to be too-wide. For when we consider the wrong inference, "Time has the cow, as it has cow-hood," we find that at the time of creation there are places which have the non-existeuce of the cow and also there are places which have the existence of the cow, i.e., at the time of creation there are both the existence and non-existence of the cow; hence in the substratum of the hetu both the negation and its negatum exist; it has again, been said that in the case of inferences in which the sādhya is of partial extensity, the negation, co-present with the hetu, and its negatum should have different substrata; but in other cases, the said negatum need not have a different substratum; and as in the above (wrong) inference, the sādhya is not of partial extensity, it may be said thet the definition applies to it.

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[38] Jāgadīśī, Ibid, p. 105.

[39] For the Nyāya-Vaiśeṣika view of space and time, Vide "Conception of Mather according to Nyāya-Vaiśeṣika" p. 175-195., by Dr. U. Mishra.

The reply to this objection is that in (some) time, having the non-existence of that (the cow), that (the cow) does not exist.[40] In other words, in dissolution, which is also the substratum of the hetu, cowhood, there is the absolute non-existence of the cow and in dissolution the cow does not exist; but the non-determinant of the cow does not determine the sādhya 'cow' and hence the definition does not apply to the said wrong inference.

Thus there can be absolute negation in the locus of destruction. But the term "absolute negation" in the definition does not stand for any kind of samsargābhāva.[41] Nor is the negation of relationship (samsargābhāvatvam) to be taken as the negation of the knowledge engendered by the attribution of relationship. The negation of the relation of the jar, for instance, is not to be defined by the negation of the knowledge caused by the attribution of relationship to the jar. The jar must not be determined by the relation of identity. Hence the negation of relationship does not mean only the denial of an attributed connection, but a negation whose negatum stands in some relation other than identity. For the relation of identity is the determinant of reciprocal negation (anyonyābhāva) or difference (veda) which is not the non-existence of relationship. The jar is different from the cloth because the jar is not identical with the cloth. This difference (or reciprocal negation) between the jar and the cloth is, therefore, determined by identity. But the negation of the jar on the ground is the negation of conjunction of the two and hence such a negation is not determined by identity. The objects negating each other reciprocally, on the other hand, may be conjoined, e.g. the jar may be placed on the cloth, yet the jar is not the cloth, i.e., the identity of two is different. Hence the negation of relationship is that which is other than reciprocal negation.

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[40] Dīdhiti, Ibid, p. 105.

[41] For the different kinds of negation according to the Navya-Nyāya, see the Introduction.

Further to define the negation of relationship as the negation of knowledge caused by the attribution of relation as such is arguing in a circle (cakrakādiprasanga). For the relationship is attributed and yet the knowledge of the relationship is said to be due to this attribution. But if the negation of relationship does not mean the negation of a relationship which is attributed, but a negation of relationship perceived as it is, then it fits the definition of Vyāpti that it (Vyāpti) is the negation, in the hetu, of existence determined by a substratum other than that of the sādhya (this is the fifth provisional definition discussed in Chapter I). In the inference, "It has fire, as it has smoke", the substratum other than that of fire is water and things existing in water (e.g., fish, moss etc.) have the negation of connection or relationship in smoke. Here Raghunātha thinks that the very fact that the negation of relation-ship, taken as it is, fits even the just mentioned (provisional) definition of Vyāpti, proves that the negation of relationship is not to be considered as the negation of knowledge caused by the attribution of relation, for this definition of Vyāpti has application to good many instances.

But the objection may be raised that the difinition of Vyāpti constituted by the negation of relationship is impossible, because in an inference where the sādhya is a supersensuous or transcendent entity the question of the perception of the negation of relationship does not arise. Let us consider, for example, the fallacious inference, "it is the mind, as it is an atom". Here in the substratum of the hetu 'atom', there may be the non-existence of the sādhya 'mind'; but as this non-existence is not perceived by the external senses, it may be said that such a non-existence does not characterise the substratum of of the hetu. The result is that the hetu co-exists with the sādhya, i.e., there is a Vyāpti between the two. Hence the difinition applies to a wrong inference and therefore is too-wide, As a reply to this Raghunātha defines properly the negation of relationship, absolute negation and reciprocal negation. The negation of relationship is the negation other than difference or reciprocal negation; absolute negation is the eternal negation of relation-ship; and reciprocal negation is the negation of an object in the relation of identity.[42] Here Jagadīśa[43] refutes another view of reciprocal negation and negation of relationship. It is held by some that reciprocal negation and negation of relationship are unanalysable character-istics (akhandopādhi). But this view, as Jagadīśa points out, is negligible (Tuccham). For these negations are never perceived as unanalysable. Further experts in the use of words use seperate words for difference and negation of relationship and this separate use also is held to have its utility. Hence the two are not identical (for they become identical, if both are unanalysable charactetistics) and as such negation is not an unanalysable characteristic.

Thus the negation of connection or relationship (Samsargābhāva) is other than reciprocal negation. And there is no necessity of the negation of relationship as such (samsargābhāvatva) being present in the definition of Vyāpti in every case. Let us consider, for example, the inference, "It has fire, as it has smoke".:; There is the reciprocal negation or difference of fire in the substratum of the hetu 'smoke' because smoke may exist on the hill, yard, field, etc., which are not fire); the relation determining the sādhya again, is conjunction, as fire exists in conjunction with the hill; in other words, fire is negated in substratum of smoke in the relation of identity, but exists there in the relation of conjunction. And as fire in the relation of identity is not fire in conjunction, the negatum of the difference or reciprocal negation of fire existing in the substratnm of smoke is the non-determinant of the sādhya viz, fire in conjunction. Hence (to accept the original definition of Gangeśa) the definition applies to the inference and thus there is no necessity, in all cases, of the negation of relationship being an integral part of the definition of Vyāpti.

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[42] See the Introduction.

[43] Jāgadīśi-Siddhānta-Lakṣaṇam. P. 109.

The definition of Vyāpti again turns to be incomplete in some cases, if the negation of relationship enters in the definition. Consider, for instance, the inference. "It is a cow, as it has the dew-lap." Here 'cow' is the sādhya in the relation of identity, for the substratum of the hetu i.e. the Pakṣa is 'cow' on which the sādhya 'cow' exists in that relation. Here again the sādhya is of complete extensity (in the substratum of the hetu) and the definition in such cases requires the negatum of the negation co-present with the hetu to be determined by the relation in which the sādhya exists in the Pakṣa. But this relation being identity no negation of relationship can-abide in the substratum of the hetu. Hence the definition will not apply to the inference under discussion, if the negation of relationship enters into it.

Jagadīśa, in this connection, points out that the above view that the negation of relationship or the absolute negation has not its negatum determined by the relation of identity accepts the position that the negation abiding in a negation does not imply the substratum or affirmation, nor does the absolute negation of an essence imply the difference or reciprocal negation of the possessor of the essence. For otherwise the absolute negation of the difference of the jar would be equivalent to the differenee of the cloth (or any thing other than the jar) and the negatum of the difference (i. e., cloth), being determined by the relation of identity, there would not be the said incompleteness of the definition.

Thus the definition of Vyāpti is that the hetu must co-exist with the sādhya which is not determined by the negatum of the absolute negation co-present with the hetu, and that the same negatum should have a substratum different from that of its negation, or to put it in the way of Raghunātha, Vyāpti is the co-existence of the hetu with the Sādhya which is determined by the non-determinant of the object having a substratum different from that of its absolute negation which is copresent with the hetu. But it may be objected that the definition is too-wide being applicable to a fallacious inference like. "It has knowledge, as it is a substance". For in ether the substratum of the hetu 'substance', there is the negetion of material substances in the relation of inherence and the non-determinant of material substance is also knowledge (the sādhya), knowledge being a quality of the psyche. Against this objection it may be argued, as Jagadiśa points out, that the relation of objectifying (viṣayatā)[44] is Vṛttyaniyāmaka (a relation that does not bring the consciousness of[45] the support and the supported), as knowledge, attraction, repulsion and effort bear this relation to all objects and it is not the relation in which an object exists in its substratum. Thus knowledge (the sādhya) is negated in ether the substratum of the hetu, and, therefore, the definition does not apply to the above fallacious inference. As a reply to this argument, another fallacious inference may be cited, to which the definition applies and turns to be too-wide. The inference. "It has specific quality, as it is a substance other than the mind", is of this type. The definition applies to this wrong inference, because time and space are the substrata of the hetu and (these being the determinants of specification) specific quality (the sādhya) exists in them in time relation and space relation respectively and the negatum of the negation of specific quality (the sādhya) has not a different substratum from that of its negation (tadabhāvo na pratiyogi-vyadhikaraṇa).

The hetu in the above inferente is a substance other than the mind, because space and time are not the adjuncts of the mind and they being the cause of specification, specific quality is not the adjunct of the mind. Raghunātha, however, takes space and time as nothing different from God (dikkālayorīśvarānatiriktatvāt) and God being the substratum of specific qualities, like knowledge etc., and also of all substances, the above inference is not fallacious according to him.

Hence another fallacious inference is brought forward to which the definition is alleged to apply. Consider, for instance, the fallacious inference. "It has the universal or the generic attritute, as it has affirmation." Here inherence is also a substratum of the hetu, as it is one of the positive ultimate knowables. Inherence again is the substratum of the generic attribute in self-relation which is the same as inherence determined by the substratum of the generic-attribute (i. e., the relation of inherence as determined by the substratum of the generic attribute may also be called self-relation). Hence the negation of the sādhya 'generic attribute' cannot co-exist with the hetu, that is, the sādhya exists in the substratum of the hetu invariably. Thus the definition applies to a wrong inference and is, therefore, too-wide.

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[44] Ibid. p. iii.

[45] See the Introduction.

Raghunātha brushes away all these objections against the definition by the bold assertion that the negatum negated in the substratum of the hetu should be determined by the relation in which it exists in its substratum or by the relation determining itself. Taken in this sense, the definition does not apply[46] to the fallacious inference, "It has knowledge, as it is a substance." For the sādhya 'knowledge' is negated in the jar etc. (the substratum of the hetu) in the relation of inherence, the relation in which knowledge exists in its substratum, the soul.

But objection may be raised that if the relation determning the negatum of the negation copresent with the hetu is to determine the substratum of the same negatum, then the definition does not apply to the inference, "It has fire, as it has smoke." For there is the general negation of fire on the hill, the substratum of the hetu 'smoke', in a relation of conjuction pertaining to the kitchen-fire. Secondly the definition applies to a fallacious inference, "It has the universal or the generic attribute, as it is a generic attribute", because the generic attribute bears the relation of identity to the substratum of the hetu.

But all these objections miss their mark, as the negation of that negatum is to be accepted, which exists in the relation determining the same negatum-hood. Hence the negation of the kitchen-fire in conjunction, in the inference, "It has fire, as it has smoke", is relevant. Similarly, the generic attribute in the relation of inherence is only relevant, as the generic attribute inheres in its substratum, and the relation of identity in this case is superfluous,

But when the relation of identity is the determinant of the negatum of the negation co-existing with the hetu, such a negatum is negated there in the same relation and is quite relevant for the purpose. It may, however, be said that a reciprocal negation or difference being pervasive (as everything has reciprocal negation with every other thing), is to be considered as having no function in the determination of Vyāpti. But as in the inference "It has the conjunction of monkey, as it is this tree," there is the difference or reciprocal negation of the substratum of monkey-conjunction in the root of the tree (and not at the place where the monkey sits), the substratum of monkey-conjunction is not pervasive in the relation of identity, i.e. the difference or reciprocal negation of the substratum of monkey-conjunction is not completely extensive. Hence a reciprocal negation, whose negatum is determined by the relation of identity, can exist in the substratum of the hetu and can enter into the make-up of the definition of Vyāpti.

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[46] Didhiti, Jāgadīśi-Siddhānta-Lakṣaṇam, P. 116 & 119. Benares.

But objection may be again raised that the definition does not apply to the inference. "It has the conjunction of monkey, as it has the essence-this-tree," because the conjunction of monkey is a quality which is different from this tree. As a reply Raghunātha says that the negation which is not co-present with its negatum, should characterise the substratum of the hetu and then the definition will apply to an inference whose sādhy is of partial extensity. But the negation of monkey-conjunction in this tree (the[47] substratum of the hetu) is a negation which is co-present with its negatum and so the said narrowness of the definition does not occur.

But it may be argued that in the inferences in which the sādhya is of partial extensity, the negation co-existing with the hetu need not be the negation which is not co-present with its negatum, beause difference or reciprocal negation being completely extensive, it is enough if the negation different from that which has its negatum co-existent with it is stated to be co-present with the hetu.

As a reply Raghunātha says that if this is accepted, then the definition applies to a fallacious inference whose sādhya is of partial extensity. Consider, for instance, the fallacious inference, "It has the conjunction of monkey, as it has existence." Here the sādhya 'monkey-conjunction' being co-existent with its negation (as in a substance, say the tree, there is monkey-conjunction at some part and its negation at some other part), some negation differnt from it may be shown to be co-existing with the hetu. The result would be that the definition will apply to a fallacious inference and thus be too-wide.

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[47] Ibid, P. 121.

But it may be contended that in quality there is the negation of conjunction but not its existence and quality is also the substratum of the hetu. Hence the definition does not apply to the inference, "It has monkey-conjunction, as it has existence" and as such is not too-wide.

But this contention does not stand logical scruiny. For substance is also the substratum of the hetu 'existence' and in substance monkey-conjunction being co-existent with its negation, a reciprocal negation of monkey conjunction can be shown to be present in the locus of of the hetu and the result will be the wideness of the definition. In fact, it is bad logic to concentrate on one snbstratum of the hetu in this case when we have three substrata of it, viz, substance, quality and action. Gangeśa really means all the substrata of the hetu when he says that the negatum negated in the substratum of the hetu should have a locus opposed to the locus of its negation. The object negated should not exist in any substratum of the hetu. And it is for this that the definition applies to the valid inference, "It has monkey-conjunction, as it has the essence-this-tree". For though monkey conjunction is negated in quality, yet the substratum of the hetu here is this tree in which the negation of monkey-conjunction is not a negation which is not co-present with its negatum. In other words, monkey-conjunction is both present and absent in this tree and hence this tree is not an incompatible substratum of monkey-conjunction. Therefore some negation which characterises this tree but whose negatum does not exist there should be selected to show the application of the definition to this inference.

Thus the definition of Vyāpti is that the negatum-negated in the substratum of the hetu should have a substratum different from the locus of the hetu and that the non-determinant of this negatum should determine the sādhya. But it may be argued, as Raghunātha points out, that either the whole class determined by the determinant of the negatum negated in the substratum of the hetu does not exist in that substratum, or a part of that class does not exist there. If the latter, the definition is narrow, as it does not apply to an inference whose sādhya is of partial extensity. If the former, the definition is too-wide, as it applies to the fallacious inferences like "It has the general negation of conjunction, as it has existence", and "It has the negation of substance-hood, as it has existence." Let us take, for instance, the inferenc, "It has the conjunction of monkey, as it is this tree," in which the sādhya is of partial existensity in the substratum of the hetu. Here this tree, the substratum of the hetu, has the conjunction of the monkey which is sitting on the tree and which is also negated in the tree in its root. But it is not the substratum of the conjunction of monkey of other places. Here the definition is not exhaustive.

Let us now consider the fallacious inference, "It has the general negation of conjunction, as it has existence" and see how the definition applies to it. Here substance is a substratum of the hetu 'existence.' In substance there is the negation of the negation of the sādhya, because the negation of the general negation of conjunction is conjunction. Some kind of negation of conjunction, say the negation of the conjunction of quality, also characterises substance. Hence the negatum negated in the substratum of the hetu has a locus different from that of its negation and as such the definition applies to the inference.

Let us now take the second fallacious inference: "It has the negation of substance-hood, as it has existence." The question of this inference arises because, according to Raghunātha, the general negation of conjunction is universally present and the previous inference is not fallacious. The present inference, on the contrary, is undoubtedly fallacious and if the definition applies to it, it will be too-wide. And the present inference can be shown to come within the scope of the definition. In the transitory or finite substance, which is the substratnm of the hetu, there is the negation of the eternal substance and this eternal substance is not the sādhya which is the negation of substance-hood. If it is said that here the negation of the sādhya is substance which is the substratum of the hetu, then the reply is that the negation of the negation of the eternal substance is the eternal substance which is no other than substance-hood which is the negation of the sādhya.

But it may be argued that the negation of the negation of the eternal substance is not the eternal substance, for in that case the finite substance would be the negation of the negation of the eternal substance, substance-hood abiding even in the finite substance. And the result would be that the definition would not apply to the fallacious inference, "It has the negation of substance-hood, as it has existence" and thus there would be no superfluity or Ativyāpti.

The reply to this argument, as Jagadīśa points out, is that if the finite substance is taken as the negation of the negation of eternal substance, we get an infinite number of negations, as there is an infinite number of finite substances. Further it is conclusively admitted that the negation of the negation of an entity is that entity. Hence the negation of the negation of the eternal substance is the eternal substance and not the finite substance.

But it may be further contended that even if there is an infinite number of negations of finite substances, the definition is not guilty of Ativyāpti. For the substratum of the hetu 'existenc,' in the above fallacious inference, (It has the negation of substance-hood, as it has existence) is substance and on earth, which is a substance, there may be the negation, for example, of the jar or the cloth or some other thing, and also the existence of the negatum of these negations. In other words, we do not get the negatum negated in the substratum of the hetu as having a substratum different from that of its negation and as such the definition does not apply to this fallacious Infernece. Again the negation of the negation of quality exists in substance. But the negatum of this negation of the negation of quality is the negation of quality which existed just at the preceding momont and this negatum existed in the substance which has the negation of the negation of quality. Hence here also the negtum negated in the locus of the hetu, has not a substratum opposed to that of its negation and as such the definition is not too-wide.

The charge of Ativyāpti against the definition can be further absolved by the argument that the negation of (finite) ether (in the relation determining the sādhya) in substance, the substratum of the hetu 'existence' (again considering[49] the fallacious inference, "It has the negation of substance-hood, as it has existence") is not a negation whose negatum has a locus different from that of its negation. To show how can there be both negation of ether and the existence of ether in substance, it is said that (finite) ether is equal to the negation of infinite ether and as there is the negation of infinite ether in substances, it may be said that there is (finite) ether in substance. To the question, how can the finite ether be the negation of infinite ether, the answer is very simple and that is that infinite ether does not exist in the relation of conjunction in finite ether. And as infiite ether no where exists in the relation of conjunction[50] the negation of infinite ether (in the relation of conjunction) also abides in the finite substance.

Thus in the fallacious inference, "It has the negation of substance-hood, as it has existence", the negatum negated in the substratum of the hetu has not a locus different from that of its negation and hence the definition does not apply to this inference and as such the definition is freed from the charge of Ativyāpti. Here Jagadīśa points out that if the definition is extricated from the charge of Ativyāpti in the means adopted above, then the definition really becomes involved in the fallacy of asambhava (applying to no case). For even when we consider the stock inference, "It has fire, as it has smoke", the negation of the jar characterising the hill may be said to be equivalent to the negation of the jar that existed there at the preceding moment and the result is that the negation of the jar existing at the preceding moment is also the negatum of the negation of the jar existing on the hill. But the negation of the negation of the jar existing at the preceding moment, i. e, the jar existing at the preceding moment, has for its substratum the hill. Hence the negatum negated in the substratum of the hetu has not a locus different from that of its negation and as a result the definition does not apply to this inference and there arises the fallacy of asambhava. To save the definition from the charge of this kind of fallacy of asambhava, we should say that the negatum negated in the locus of the hetu should not exist in that locus in the relation which determines the existence of its class (which is to be taken in the denotative sense) in its substratum. When we consider the inference. "It has fire, as it has smoke", the jar may be taken to be negated on the hill. This jar exists in the relation of conjunction in its substratum. Now the jar should not exist on the hill in this relation of conjunction. And when the jar is negated on the hill, it is certainly not conjoined with the hill. Like-wise when we take the fallacious inference, "It has the negation of substance-hood, as it has existence" the hill may be the substra tum of the hetu 'existence', and the jar negated on the hill does not exist there in the relation of conjunction. The jar is not again the sādhya. Hence the definition applies to a fallacious inference and is too-wide. The special point to be noted here is that the relation determining the existence in its locus, of the class (taken in the denotative sense) of the negatum, negated in the locus of the hetu, is only relevant to the issue. The class jar exists in its substratum in the relation of conjunction. And when the jar is negated on the hill, the jar should not exist on the hill in this relation. But if we take a special variety of jar, say the blue jar, and point out its negation on the hill, then the relation in which the blue jar exists in its substratum is not conjunction, but inherent conjunction, as the blue inheres in a jar which is conjoined with its substratum. Hence the negation of the blue jar is quite irrelevant to show the application of the definition of Vyāpti under discusion.

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[49] There is the negation of finite ether in substance in self-relation which determines the sādhya in the in ference, "It has the negation of substance-hood, as is has existence" (but not in the relation of conjunction)

[50] Infinite ether does not exist in the relation of conjunction even in a substance, because a substance has finite ether in conjunction.

Jagadīśa introduces all these discussions to support the apparent (but not real) charges brought forward by Raghunātha against the definition. Raghunātha now forestalls another apparent objection against the definition. The definition may be shown to be inapplicable to a correct inference like, "It has the negation of monkey conjunction, as it has self-hood", and is narrow. And the definition does not apply here for the following reasons: The negation of monkey-conjunction is the negation of quality; the self, on the contrary, is the substratum of quality; hence the self has the negation of the negation of quality, i. e., the negation of the sādhya. The negation of monkey-conjunction is the negation of quality, because monkey-conjunctien, which is the negation of the negation of monkey conjunction, is a quality.

Raghunātha now replies to all these apparent objections. The definition is not really fallacious. For the sādhya is to be determined by the non-determinant of the very negatum negated in the locus of the hetu. Considered in this light the definition applies to the[51] correct inference. "It has the negation of monkey-conjunction, as it has self-hood.' For though the negation of quality in general is negated in the substratum of the hetu, yet the negation of monkey-conjunction, being not the negation of quality in general, can very well characterise the self. Here there is the negation of monkey-conjunction in the self and the non-determinant of this negatum of this negation is only relevant. But the non-determinant of monkey-conjunction is the sādhya. Hence the definition applies to the inference.

Similarly, when we consider the fallacious inference, "It has the negation of substance-hood, as it has existence" there is the negation of the negation of substance-hood in substance, which is the locus of the hetu, and the negatum of this negation, viz, the negation of substance-hood, determines the sādhya. Thus there is no Ativyāpti here, as according to the definition, such a negatum is not to determine the sādhya or the non-determinant of such a negatum is to determine the sādhya.

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[51] Vide Dīdhiti: Yādṛśa-pratiyogitāvacchedakāvacchinnanādhikaraṇatvam hetumatastadanavacchedakatvasyoktatvāt.

Jagadīśa points out in this connection that the negatum negated in the substratum of the hetu should be taken in the relation determining the sādhya. For when the same negatum is taken in the said relation, the definition does not apply to the fallacious inference, "It has smoke, as it has fire." "There is no Ativyāpti here, because the relation determining the sādhya in this case is conjunction and there is no conjunction of smoke in the red-hot iron ball which is the substratum of the hetu. But if the negatum negated in the substratum of the hetu is taken in any relation, then it may be said that smoke exists in time relation on the red-hot iron-ball (as everything bears time relation to everything else). The result will be Ativyāpti.

Thus the negatum negated in the substratum of the hetu should be determined by the relation determining the sādhya. But if it is said that the same negatum is only to be determined by the relation determining it, then the definition does not apply to the correct inference, "It has colour, as it has earth-hood." For the knowledge of colour in the relation of being objectified (viṣayitā) does not inhere in earth and the sādhya is also colour.

Jagadīśa further points out, in this connection, that really there should be the negation, through self-relation, in the determinant of the sādhya, of the determinant of the negatum of the negation co-present with the hetu and this determinant of this negatum is also to be determined by the relation in which the sādhya stands. And for this there is no harm, even when fire-hood in the relation of inherence is the determinant of the sādhya, in the inference, "It has fire, as it has smoke." For jor-hood in the relation of inherence is the determinant of the jar which is negated the relation of conjunction in the substratum of the hetu smoke and this jar-hood is negated in fire-hood in self relation.

In this connection it should be remembered, says Jagadīśa, that the locus of the hetu should have the absence of a generic negatum as also the reciprocal negation of all the particular instances of that negatum and the non-determinant of this negatum should determine the sādhya. And for this the definition is not guilty of Ativyāpti, as it does not apply to the fallacious inference, "The hill has smoke, as it has fire". For in the red-hod iron-ball, the substratum of fire, there is the difference or reciprocal negation of the yard-smoke or field-smoke, or the kitchen-smoke, or the hill-smoke, i.e, all particular smokes and also the negation of generic smoke.

But it may be argued that the negatum negated in the locus of the hetu is not to be taken as a specific object which is determined by its essence and the relation determining the sādhya, but should be taken as it is. And in that case the definition applies to no case and there arises the fallacy of asambhava (impossibility). Let us consider the inference, "It has fire, as it has smoke." The negation of the jar characterises the substratum of smoke. If the negatum of this negation is not a specific object, then it may be determined by substance-hood, inherence and knownness, even as it can be determined by jar-hood, because the jar can be taken as a substance, as a substratum in which qualities inhere and as the known. But the substratum of the hetu is also known. Hence the-negatum negated in the hetu has not a substratum opposed to that of its negation and as such the definition does not apply to this inference.

But it may be contended that the jar negated in the locus of smoke should be taken as jar-hood and not as a substance or as a knowable. The difficulty of this interpretation is that the definition is guilty of Ativyāpti when we consider the wrong inference, "It has fire in the relation of inherence, as it has smoke in the relation of conjunction." For fire-hood, according to this view, is the negatum of both the negation of fire in inherence and the negation of fire in conjunction and as fire in conjunction exists on the hill, it may be said that there is no negation of fire in inherence on the hill.

Again it may argued that the non-substratum-hood of the negatum negated in the locus of the hetu should be in the relation determining this negatum-hood. But in this case we get Avyāpti, as the definition does not apply to the inference, "It has fire in conjunction, as it has smoke." For when fire is negated in the relation of inherence on the hill, fire-hood, in the relation of inherence, has its substratum opposed to the hill and this fire is also determined by the relation of conjunction.

The real solution of these difficulties, as Jagadīśa points out, is that the negatum (which is negated in the substratum of the hetu) or its determinant has reference to a particular negation and is determined by a particular essence or a relation and not by all essences and relations. Thus when the negatum of a negation is determined by the relation of inherence, it is not determined by the relation of conjunction. Hence when Raghunātha says that the sādhya is to be determined by the non-determinant of the very negatum negated in the locus of the hetu, he really means that there should be the negation, in the sādhya, of the determination of the specific negatum-hood whose negation co-exists with the hetu but which itself does not so co-exist in the relation and essence determining it. If two objects, for example, are negated in the locus of the hetu in a certain relation, then those two-objects must not co-exist with the hetu and should be absent from the determinant of the sādhya. And for this the definition is not too-wide, as it does not apply to the fallacious inference, "It has both fire and smoke, as it has fire"; for both fire and smoke are collectively negated in the red-hot iron-ball the locus of the hetu.

Thus according to Raghunātha there should be the non-determination, in the sādhya, of the specific kind of negatum which is negated in the locus of the hetu and the co existence of the hetu with such a sādhya is Vyāpti. Here it should be noted that the consideration (Parāmarśa) in the inferential knowledge is the knowledge of the hetu, which is universally related with the sādhya, as abiding in the Pakṣa. But to have a correct inference, any kind of co-existence of the hetu with the sādhya is not sufficient. Inferential knowledge follows from the knowledge of the co-existence of the hetu with the sādhya as determined by the specific relations determining them. So Raghunātha says that the substratum of the hetu should be determined by the relation which determines the hetu, the negatum negated in this substratum should be determined by the relation determing the sādhya and the sādhya should be determined by the non-determinant of such a negatum and then we shall have Vyāpti.[52] And on account of this there is no Avyāpti, when we consider the correct inference,

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[52] Dīdhiti, Jāgadīśi-Siddhānta-Lakṣaṇam, P. 152-155. Benares.

"It has fire, as it has smoke." For it may he shown that the part of smoke is the substratum of smoke in the relation of inherence and fire is negated there in the relation of conjunction and as a result there is Avyāpti. But if the substratum of the hetu is taken in the relation in which the hetu stands to the Pakṣa, i.e. the relation determining the hetu, then the part of smoke is not the substratum of smoke, as smoke exists in the relation of conjunction (the relation determining it) on the hill, yard, field, etc, and not on its part (the whole bears the relation of inherence to the part according to the Nyāya-Vaiśeṣika). On the other hand the hill, etc, is such a substratum in such a relation and there is the negation of water in it and the determination of water is negated in fire and this is what the definition demands and hence the alleged Avyāpti is groundless. Similarly, on the hill, which has smoke in the relation of conjunction, there may be the negation of fire in the relation of inherence and yet there will be no Avyāpti, as the relation determing the sādhya 'fire' is conjunction and not inherence.

But it may be objected that the definition applies to the fallacious inference, "It is the cow in the relation of identity, as it has a hump." For the negatum which has reciprocal negation with the substratum of the hetu is not determined by the relation of identity which determines the sādhya, as Raghunātha himself asserts in his Bauddhādhikāra Tippanī that such a relation is not identity. Likewise in the inference "He is rich, as he is Caitra," the sādhya is "rich" in the relation of ownership (Svāmitva) which is a Vṛttyaniyāmaka Sambandha (a relation which does not bring in the consciousness of the support and the supported) and the negatum negated in the locus of the hetu cannot be determined by that relation.

As a reply Raghunātha says that there will also be Vyāpti, if the negatum negated in the substratum of the hetu does not exist there in the relation determining the sādhya.

Raghunātha further points out in this connection that the negatum negated in the substratum of the hetu should not be qualified by the difference or reciprocal negation of the relation determining the sādhya.

But objection may be raised against this that the definition does not apply to the inference, "It has fire in the relation of conjunction whose substratum is the hill, as it has the hill-smoke," for here if the negatum negated in the substratum of the hetu be determined by the relation determining the sādhya, then the substratum of this negatum is the substratum of the hetu itself.

The reply to this objection, as Jagadīśa points out, is that the meaning of Raghunātha is that the negatum negated in the substratum of the hetu should exist in its substratum in the relation determining the sādhya and such a substratum is to have a general negation in the substratum of the hetu through Svarūpa-sambandha or self-relation. And in this sense, the jar, as determined by the relation of conjunction whose substratum is the hill and whose relatum is fire, has a general negation on the hill through self-relation (in fact, the jar nowhere exists in this relation). But the determination of the jar is negated in the sādhya 'fire' in the relation of conjunction whose substratum is the hill. Hence the definition applies to the inference and there is no Avyāpti.

Jagadīśa further points out that if this meaning is not accepted, then every thing exists in the substratum of the hetu in time relation, so that we shall never get the negatum, negated in the substratum of the hetu, as having a substratum opposed to it (the substratum of the hetu).

But again objection may be raised that if the hetu and the sādhya are to co-exist in a specific relation, then when these bear to each other the relation of identity, we have Avyāpti, as there can never be the substratum of the hetu and the sādhya in the relation of identity. As a reply to this objection, Raghunātha says that in such a case, the hetu and the sādhya should exist in the same relation and not in the same substratum and in the same relation the hetu will be the concomitant of the sādhya. Thus when the kitchen is related to the substratum of smoke in the relation of identity, the object having reciprocal negation with the kitchen is determined by the relation of identity and the non-determinant of this object determines the *substratum* of fire which is related in identity to the kitchen which again is related in identity to the substratum of smoke.[53] In other words,

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53, Dīdhiti. Ibid, P. 160-161.

when we consider the inference, "It has fire, as it has the substratum-hood of smoke," the relation between the hetu and the sādhya is identity. But the substratum of the hetu in the relation of identity is the kitchen. The jar has reciprocal negation with the kitchen. This jar again is determined by the relation of identity, as the jar is not identical with the kitchen. There is the non-determination of the jar in the sādhya 'fire.' Fire and the substratum-hood of smoke (the hetu) again exist in the relation of identity and hence there is Vyāpti between them. Here the concomitant (Vyāpya), viz, the substratum-hood of smoke, is pervaded by the sādhya 'fire' in the relation of identity. Similarly, when we consider the inference "It has the negation of earth-hood, as it is water," water is the concomitant of the negation of earth-hood in the same relation.

The point to be remembered in this connection is that the inferential conclusion is no doubt the existence of the sādhya in the pakṣa, but the relation in which the hetu is concomitant with the sādhya should be the relation in which it should exist in the Pakṣa and again the relation in which the sādhya prevades the hetu should be the relation in which the sādhya should exist in the Pakṣa. It is for this reason that we have not the knowledge of fire in the part of smoke in the relation of conjunction,* nor have we the knowledge of fire on the hill in the relation of inherence. Similarly, when the pervader (Vyāpaka) is known to be negated in the relation determining its pervasivness (Vyāpakatā), the concomitant or the pervaded (Vyāpya) is negeted in the relation which is taken to determine the concomitance (Vyāpyatva). Fire is negated in the kitchen in the relation of inference, and in the part of smoke in the relation of conjunction, but smoke is not negated in the former in the relation of conjunction and the latter inherence. On the contrary, it (smoke) is negated in its part in the relation of conjuction in which fire is also negated in the same relation. In the same manner when water is concomitant in the relation of identity, its negation is also to be taken in that relation and the negation of water, as determined by the relation of identity, is the reciprocal negation or difference of water. In this way there is the invariable concomitance of the tree and śiṃśapā in the relation of identity.

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* Fire is conjoined with smoke which inheres in its parts. Hence the relarion of fire to a part of smoke is conjoined-inherence which is a mediated relation (paramparā-sambandha).

But it may be argued that the conclusion, "It is the cow," follows from the knowledge of Vyāpti as determined by non-existence in the non-cow, i.e., by pure cow-hood. The sādhya here is unqualified cow-hood in the relation of inherence. And also in his ditcussions on the Kevalānvayī inference, Raghunatha says that Vyāpti is the non-existence of the hetu in a substratum different from that of the sādhya. Hence it follows that the sādhya is unqualifeid cow-hood in the inference, "It is the cow, as it is the substratum of the dewlap," and the question of the sādhya being inclusive of any other character (say, that of the hetu) is absurd here.

The reply of Raghunātha to this is that when we do not know Vyāpti as determined by the non-existence in the non-cow. i.e., by cow-hood, the conclusion, "It is the cow," has for its sādhya 'the cow' in the relation of identity, and not unqualified cow-hood and in that case the sādhya is inclusive of the hetu. In other words, when the Pakṣa is not known to possess Vyāpti as determined by cow-hood, but is known to possess it as determined by the cow, the sādhya is the cow which includes the character of the substratum-hood of the dewlap, i.e., the character of the hetu. Hence in the inference "whenever there is the dewlep, there is the cow," or "It is the cow, as it is the substsatum of the dewlap," the cow is the pervader in the relation of identity, and the conclusion, "It is the cow," follows from the universal proposition that in all cases the sustratum-hood of the dewlap in the relation of identity is the cow. If the cow here is not taken in the relation of identity, the substratum-hood of the dewlap is negated.

Thus in the inference, "It is the cow, as it is the substratum of the dewlap", there is Vyāpti between the hetu and the sādhya in the relation of identity. The Old School, however, does not agree that co-existence in the same relation (and not in the same locus) is also Vyāpti. But Raghunātha here does not fight alone. He is supported as Jagadīśa points out, by Pakṣadhara Miśra who also admits that there can be inference about the sādhya when it is the pervader (Vyāpaka) in relation. Hence when the hetu and the sādhya, which is determined[54] by the non-determinant of the negatum negated in the substratum of hetu, co-exist even in the same relation, we have Vyāpii. Ether pervades a substance in the relation of conjunction, because the relation of conjunction is Vrttiniyāmaka (a relation which brings the notion of the support and the supported) and the negatum negated in the substratum of hetu is determined by this relation. Again even when we say that the negatum negated in the substratum of hetu should not bear the relation determining the sādhya, we have also ether pervading substance. In other words, when we consider the inference, "It has ether, as it is a substance", the sādhya is determined by the relation of conjunction. But the jar, in the relation of inherence, is negated in the substance. Hence in this case the relation of conjunction is not the determinant of the jar. But the jar is negated in ether in the relation of inherence and ether and substance co-exist in the relation of conjunction. Thus ether pervades substance in the said relation. Similarly, if we consider the inference, "It has ether, as it has earth hood", there is the negation of the jar in earth in the relation of inference and not in the relation of conjunction which is not, therefore. the determinant of the existenc of the negatum negated i,e., of the jar. The jar again is negated in ether in the relation of the inherence and ether and earth co-exist in the relation of conjunction, Thus ether here pervades earth because the relation of conjunction is not the determinant of the existence of the negatum negated in the substratum of the hetu. In fact, valid inference results when the sādhya is inferred in the relation in which the co-existence of the hetu and the sādhya appears in the consideration (Parāmarśa) which is the knowledge of the concomitant (or the hetu as pervaded by the sādhya) as existing in the Pakṣa. Similarly the relation in which the sādhya pervades the hetu should be the relation in which the sādhya is to exist in the Pakṣa. Hence when the relation of conjunction is the determinant of the co-existance of the hetu and the sādhya, or the determinant of the prevasion of the sādhya in the hetu, we have valid inference in that relation.

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[54] Jāgadiś, Ibid, 166 P.

But it may be argued that there is no Avyāpti in the inference, "It has cow-hood in the time relation, as it has jar-hood." In other words, it may be said that there is Vyāpti between jar-hood and cow-hood, because in the jar of the present moment, there is the negation of the jar of other moments, jar-hood dees not determine cow-hood and jar-hood and cow-hood co-exist in time relation. The reply to this regument is that the jar is one of the four substanees of earth, fire, water, and air and has the negation of substance other than these four and hence jar-hood, which inheres only in jars, cannot be the hetu, when the sādhya is cow-hood. But Raghunātha raises some other primafacie objections[55] (which he will answer later on). In the infetence, "Time (Kāla) has the jar, as it as eternity (Mahākāla)," the sādhya 'jar' may be said to exist in time relation in time which is a substance in addition to the four substance of earth, water, air, and fire and this sādhya as well as the present time which it occupies is of partial extensity, because there are placees where the jat of this time does not exist. Again though there may be the negation of negatum, say of fire, in the relation determining its negatum-hood, in eternity, yet no negatum can be negated in eternity in time relation which determines the sādhya. Similarly no object can bear any other relation than the temporal to eternity, But it has been said that when a negatum, being negated in the substratum of the hetu in the relation determining the sādhya, does not determine the sādhya the co exsistence of the hetu with this sādhya in the same relation is Vyāpti. Hence there is Avyāpti in the inference under discussion.

But it may be argued that in eternity the negation of the jar as determined hy time relation is a negation whose negatum does not exist in eternity and as the sādhya is the jar as determined by eternity there is no Avyāpti in the inference, "Time has the jar, as it has eternity." It cannot be said here that as the jar bears the relatlon of atributivness as determined by eternity (Mahākālanirūp-ita-viśasanatāviśesa-sambandha) to eternity, the jar cannot be negated in eternity. For all things existing in time bear that relation to eternity and nothing determined by temporal relation, could therefore pervade eternity. Further Raghunātha himself asserts time to be additional to the four substances of earth, water, air, and fire and considers the inference, "Time has the jar, as it has eternity," to be valid. He also thinks that space exists in time relation. Hence the definition applies to this inference and there is no Avyāpti.

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[55] Vide the Vivrti of Vāmācarana, Ibid P. 176.

But this argument, as Jagadīśa points out, is groundlese. For when we have the perception that now the jar has difference from or reciprocal negation with eternity, or this present moment is possessed of the jar having difference from eternity, eternity, as conditioned by these times, possesses the jar having its difference. In other words. the different divisions of time like the past, present and future are so may limiting adjuncts (upādhi) to eternity. Hence eternity possesses the jar which has its difference at the present moment. If we do not allow this, the specific jar and, in fact all things exist in a limited time and nothing could, therefore, exist in eternity. Further the apprehension of eternity is derived for the perception of "now," "then," "etc," i.e., from the perception of succeeding moments. Hence eternity cannot have the negation of things existing at a particular point of time.

It cannot also be said that there is no proof that the particular points of time have substratum-hood. For the perception that the time having the destruction of the cloth is different from the locus of the cloth is a valid one and hence limited time also has substratum-hood.

There may be still another view in connection with this question of time and eterntty cropping up in the discussions of Vyāpti. It is said that the negation of the kitchen-fire or that of both fire and the jar collectivity having characterised the hill, the substratum of the hetu 'smoke' (to consider the inference, "It has fire, as it has smoke))." there is the determination of them in fire (the sādhya), and hence the negatum negated in the locus of the hetu should not be determined by an essance which exists in the sādhya but is not its determinant or connotation. In other words, there is the negation of the kitchen-fire or the negation of fire and the jar collectively on the hill. Fire is qualified by the kitchen-fire or the collectiion "fire and jar." But these are adventitions attributes of fire, for the essence of fire is fire-hood. But the object, with is absent in the locus of the hetu and which should not determine the sādhya, should be an object which is not determined by even such adventitious attributes of the sādhya. But when we consider the inference, "Time has the jar, as it has eternity," the negation of the jar, which is different from eternity, has its negatum determined by the specific essence having difference from eternity which exists in the sādhya but does not determine it. Hence with this kind of negation, it is not proper to show that the negatum negated in the substratum of the hetu has an opposed substratum.

But this view is open to criticism, In the inference "It is knowble, as it is namable," the negation co-existing with the hetu has not its negatum undetermined by the essence which exists in the sādhya but is not its determinant essence. Hence the specific negatum negated in the locus of the hetu should be determined by the relation determining the sādhya. Otherwise there is Ativyāpti. For when we consider the wrong infetence, "It has smoke, as it has fire," the red-hot iron-ball exists in the relation of conjunction in the substratum of fire which possesses smoke in time relation. But if the specific negatum negated in the locus of the hetu is determined by the relation determining the sādhya, then in the inference, in which the substratum of jar-hoood is the sādhya in time relation, there cannot be the negation, in the locus of the hetu, of jar-hood having difference form eternity as determined by the relation determining the sādhya. Similarly, a type of jar-hood having difference from eternity cannot be negated in eternity as determined by the relations of inherence and svarūpa. Hence the negation of a specific jar, having difference from eternity, cannot be a factor in the determination of Vyāpti.

Jagadīśa, in this connection, discusses another view. It is said here that when the sādhya, in an inference, is specific, then there, can be Vyāpty, in one manner, and when the sādhya is generic Vyāpti can be determined in another manner, as Vyāpti is different with the difference of the sādhya and the hetu. Let us consider, for example the inference, "It has the conjunction of monkey, as it is this tree." Here in the substatum of the hetu, there is the negation of the non-substratum-hood of monkey-conjunction which is the negatum of the negation of monkey-conjunction. Hence there is Vyāpti between the hetu and the sādhya in this inference. In this case non-substratum-hood in the locus of the hetu, is determined by the determinant of the negatum negated. Let us now take an inference in which the sādhya is generic. "Time has the jar, as it has eternity."² Here the substratum of the negatum negated (in the locus of the hetu) must not exist in the locus of the hetu and then we have Vyāpti. But there is the reciprocal negation of the sādhya "jar" with eternity and the jar also exists in eternity and yet there is no Avyāpti.

The difficulty of this view, accordiug to Jagadīśa, is that in the inference, "Time has the jar, as it has eternity," Vyāpti is also determined by the non-substratum-hood, in the locus of the hetu, of the essence of the negatum negated there. As jar-hood is not absent in eternity, there is Vyāpti between the jar and eternity,

Thus a prima facie objection against the definition is that to the inference, "Time has the jar, as it has eternity," the definition does not apply, because the object determined by the relation determining the sādhya has not its negation existing in eternity. It may be said here that a generic object should be negated in the relation determining the sādhya, in some locus of the hetu and the sādhya should not be determined by the essence of this object. This is the opinion of Vāsudeva Sārvabhauma. If we accept[56] this view, then Ativyāpti can be avoided in the wrong inferences "It has knowledge of all objects as it has existence." and "It has conjunction, as it has existance." For here the relation determining the sādhya is inherence and in that relation knowledge in general and conjunction in general are negated in quality, a substratum of the hetu 'existence.' Similarly, when we consider the wrong inference "It is both elementary and finite, as it has specific existence other than that of quality and action," specific existence does not belong to the mind, quality, etc, In other words, though substance is the locus of the hetu, specific existence, yet in the mind, which is also a substance, there is the negation of the sādhya, the mind being not finite. Thus the sādhya is negated in a substratum of the hetu and hence there is no Ativyāpty.

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[56] Dīdhiti. Ibid. 191, Here Raghunātha states the view of Vāsudeva Sārvabhauma and refutes it in the reply. Vāsudeva Sārvabhauma was the teacher of Raghunātha.

Likewise, when we consider the inference, "It has conjunction, as it is a substanc," conjunction in general is not non-existent in any substance. Hence there is no Avyāpti here.

This view of Sārvabhauma is open to objection, as the specific is included in the generic. Let us consider, for example, the inference "It has specific existence, as it has a universal or a generic attribute," This Inference is fallacious, because the universal inheres or exists in substance, quality and action. Now if the view of Sārvabhauma is accepted, then the definition applies to this fallacious inference, for the sādhya 'specific existence,' in the relation of inherence, is not negated, in any one of the substrata of the hetu. Similarly, the definition applies to the fallacious inference, "It has the generic atribute or the universal in the relation of inherence, as it is known." For substance is also a locus of the hetu and in substance the jar is negated in the relation of the inherence and the jar is not the generic atribute. Here in substance, the generic atribute abides in the relation of inherence and hence we take some other negation and even then Ativyāpti is unavoidable.

Thirdly, the definition also applies to the fallacious inference, "It has conjunction, as it is different from quality and action", if the view of Vyāpti, under consideration, is accepted. For the substrata of the hetu may be non-substance as well as substance and in the former existence, in the relation determining the sādhya, is impossible, while in the latter there is the existence of conjunction. In other words, a substratum of the hetu is substance in which conjunction; being a quality, inheres. Again if we select universal or generic attribute, inherence, etc, to be the substrata of the hetu, then the jar is negated in them in the relation of inherence. The universal inheres in the particular, but not in the universal, as the universal of the universal is repudiated by the Nyāya as entailing an infinite regress. Similarly, there cannot be inherence in inherence and the non-determination of jar-hood exists in conjunction. So the definition applies to a fallacious inference and there is Ativyāpti.

Jagadīśa here points out that the alleged Ativyāpti in the view of Vāsudeva Sārvabhauma can be avoided, if the view of his teacher is followed. When it is held that the substratum-hood of specific[57] existence is different from that of pure existence, then there is no Ativyāpti if a general negation, whose negatum is determind by the determinant of the negatum-hood and also by the relation determining the sādhya, abides in some substratum of the hetu. Thus when we consider the fallacious inference, "It has conjunction, as it is different from quality and action", in the generic attribute there is the negation of conjunction as determined by conjunction-hood and the relation of inherence. In other words, there is the negation of the sādhya in the locus of the hetu and there is no Ativyāpti.

Vāsudeva Sārvabhauma, who holds specific existence to be different from pure existence, also thinks that ether has no existence. Even assuming this view to be correct, the negation of ether can be shown, points out Jagadīśa, to characterise the substratum of the hetu. The negatum of a negation characterising the substratum of the hetu may exist in the entire substratum of hetu in the relation determining the sādhya. When a negation, different from this, characterises the locus of the hetu, its negatum exists in a substratum different from the locus of the hetu. And Vyāpti is the state in which the sādhya is not the negatum of this negation and the hetu co-exists with it. Now in the inference, "Time has the jar, as it has eternity", the negation of ether exists in eternity. Ether again doee not exist in eternity in time relation which determines the sādhya. Hence the negatum of the negation of ether in eternity has an opposed substratum (to that of its negation). But ether is not the jar and eternity co-exists with the jar in time relation. Hence there is Vyāpti between eternity and the jar.

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[57] Jagadiśa's teacher was Rāmabhadra Sārvabhauma.

But if the above view is correct, it may be said that Vyāpti is the co-existence of the hetu with the sādhya which is determined by a relation different from that in which it is negated in the locus of the hetu. And from this standpoint, when we consider the inference, "Time has the jar, as it has eterniry", the negation of the jar, in the relation of inherence, in the locus of the hetu, eternity, is a negation whose negatum exists in a locus different from the locus of its negation.

But this view does not stand logical scrutiny, as it does not apply to all inferences. When we consider the inference, "It has substance-hood specified by the existence of the jar, as it has jar-hood", the substratum of the hetu cannot have the negation of the sādhya in any relation.

It may be said that the sādhya, in the above inference, is negated in the locus of the hetu in the relation of identity. But then there is another inference, says Jagadīśa, of which the view, under discussion, will not hold. When we take the inference, "It is known as curd-hood, as it is gross (sthūla) card", the sādhya is not negated in the locus of the hetu in any relation.

But now the prima facie objection, stated before, is to be answered. It was said that the definition does not apply to the inference, "Time has the jar, as it has eternity", because the negatum (which is negated in the locus of the hetu), determined by the relation determining the sādhya, has its opposite impossible in eternity, and the negation, abiding in eternity and having its negatum non-related to it in the relation determining its negatum-hood, has not its negatum determined by time relation in which the sādhya stands.

The reply of Raghunātha to this objection is that in the relation determining the sādhya there should be the negation of some negatum negated in some locus of the hetu. In other words, some negatum negated, in the relation determining the sādhya, in some substratum of the hetu, should have its non-determination in the sādhya in the relation determining it and the co-existence of the hetu with such a sādhya is vyāpti. Thus in the inference, "It has fire, as it has smoke", the relation determining sādhya is conjunction and in this relation the jar is negated in the hill. The jar again is negated in fire in the relation of conjunction. Hence the co-existence of this smoke with fire is Vyāpti.

Jagadīśa's explanation of this reply of Raghunātha may be noted. Raghunātha speaks of the relation determining the sādhya. If the adjunct "determining the sādhya" is omitted, then there is Ativyāpti, as the definition applies to the wrong inference, "It has smoke, as ir has fire," for in time relation smoke exists in the red-hot iron ball, but not in the relation of conjunction which determines the sādhya in this inference.

Similarly, if we speak of the determinant of the sādhya and not of the relation determining the sādhya, then there is Ativyāpti. Consider, for instance, the fallacious inference, "It has the substratum of inherence in cojunction, as it has the universal or generic attribute." This inference is fallacious, because in quality, the substratum of the generic attribute, there is the conjunction of nothing. Now in this inference inherence is the determing essence of the sādhya. The negation of inherence does not characterise quality, the substratum of the hetu. Hence the definition may be said to applpy to this wrong inference.

Thirdly, "the relation determining the sādhya" should be determined by such as essence as determines the relation in which a valid sādhya stands in a valid inference, If this meaning is not accepted, the definition becomes narrow. Consider the inference, "It has fire, as it has smoke." The conjunction of the jar or the hill does not exist in the kitchen, the substratum of the hetu; but fire (the sādhya) is not the relatum of this kind of the relation of conjunction, i, e., the conjunction determined by the jar or the hill. Hence thers is Avyāpti

But this Avyāpti is avoided, when we find that there is not the negation of the conjuction of fire in the kitchen.

Similarly, there is not Ativyāpti, when we consider the fallacious inference, "It has smoke, as it has fire." For there is the negation of smoke, in the relation of conjunction, in the red-hot iron ball and as such the definition does not apply to this wrog inference.

In the next place, it is said that in the relation determining the sādhya there should be negation of a negatum in some substratum of the hetu. This implies that a negatum should be negated in some substratum of the hetu, in the relation determining the sādhya. Similarly, this negatum should have its non-determination in the sādhya in the relation determining the sādhya. Both these negations again are to exist in ther substrata in self relation. And for this there is no Avyāpti, because both those negations never abide in their substrata in the relation of inherence or conjunction. In other words, inherence, conjunction, etc, are relations whose substrata are opposed to the substratum of negation, negation characterising its substratum only in self-relation. Hence these two negations can well charactertise their substrata in the relation determining the sādhya and as such Vyāpti can be determined with them. In has been again said that in the relation determining the sādhya, there should be the negation of "some" negatum in "some" locus of the hetu. Here the adjunct "some" means at least one. If one negatum is negated in one substratum of the hetu in the relation determinig the sādhya, then also there is Vyāpti provided this negatum is negated in the sādhya. If "some" means anything else, then there is Ativyāpti. In the wrong inference "It has this jar, as it has that jar of some other time," the negation of this jar, no doubt, characterises that jar, but the negation of another thing may be shown to characterise that jar and thus the definition may be shown to apply to this wrong inference. Again it may be alleged that in the correct inference, "Time has the jar, as it has eternity," the negation of ether does not characterise eternity and hence Vyāpti cannot be determined here with the negation of ether.

But it may be argued that in the inference, "Time has the jar, as it has eternity," the negation of ether, in the locus of the hetu, can determine Vyāpti. For in the relation of identity, whose relatum is ether, there is the negation of time relation existing in eternity, and in time relation, existing in eternity, there is not the relatum-hood of ether and ether is not the jar. The difficulty of this position is that there arises Ativyāpti in other cases. Consider the wrong inference, "It has substance in the relation of conjunction, as it is known." The relation of conjunction existing in a particular substratum of the hetu, viz, substance, has for its relatum substance and hence ther is not the negation of the sādhya in the locus of the hetu. Hence the negation of ether in eternity determines Vyāpti in the infernece, "Time has the jar, as it has eternity," in another way. Ether cannot stand in time relation in general (Kālika-sambandha-sāmānya), though the other term of this relation can be eternity, and ether is not the jar. In other words, ether is negated in the relation decermining the sādhya, in the substratum of hetu which is opposed to the substratum of ether in that relation, The jar being not such ether, the co-existence of eternity with the jar in time relation, is Vyāpti.

But it may be objected that if we take some substratum of the hetu, then the definition applies to the wrong inference, "It has smoke, as it has fire" for the conjunction of smoke exists in the red-hot iron ball in time relation.

If it is said that the relation causing the relatedness of the relation determining the sādhya should be the relation in which some substratum of the hetu is to be taken, then also there is Ativyāpti. For in the fallacious inference, "It is a substance in the relation of conjunction, as it has either a substance or a generic aitribute," the relatedness of the conjunction in which the sādhya stands is caused by inherence and inherence, not existing in the generic attribute, exists in the substance. If it is again said, in reply to this, that in some substratum-hood determined by the relation determining the sādhya, there should be the negation of the negatum negated in some locus of the hetu in self-relation, then also the difficulty is not solved. For when we consider the fallacious inference. "It is a substance, as it has a generic attribute," there its not Ativyāpti, only when the relation of inherence is considered to be one and not manifold.

The solution of all these is that when it is perceived that fire exists on the hill in the relation of conjunction, fire is the relatum and the hill, the substratum, of the relation of conjunction. Now there is not Ativyāpti, when we consider the fallacious inference, "It has smoke, as it has fire." For Raghunātha's exact meaning is that in the relation determining the sādhya there should be the negation of both the negatum negated in the locus of the hetu and the substratum of this negation and the red-hod iron-ball has not conjunction of smoke. Further relation determines the specific and right knowledge of an object. The conjunction of smoke does not specify the knowledge of the red-hot iron-ball. Hence there is not the conjunction of smoke there. But if we take any relation to be existing in any substratum, then there is Ativyāpti. Consider the fallacious inference, "The hill has fire, as it has fiery colour." Here the conjunction of hill-fire has not the negation of the relatum-hood of fire, nor has it the negation of substratum-hood of fire which is the locus of the hetu. Hence the negation of fire does not characterise the locus of the hetu and there is Ativyāpti.

But this Ativyāpti is avoided, when we find that the conjunction of hill-fire is not the relation which existing in fire, the locus of hetu, determines its knowledge. Really the fiery colour exists in fire in the relation of inherence and not in conjunction. So the conjunction of hill-fire is not the real determinant of the substratum-hood of fire which is the substratum of the relation of inherence whose relatum again is fiery colour.

Thus when the sādhya is not determined by "some" negatum negated, in the relation determining the sādhya, in "some" substratum of the hetu, the co-existence of the hetu with the sādhya is vyāpti. But the question may be asked, why is it said that a negatum should be negated in "some" substratum of the hetu? What is the force of this "some"? Its force, as Raghunātha thinks, is that in the fallacious inference, "It has smoke, as it has fire", the conjunction of smoke is negated in the red-hot iron-ball and not in the other substrata of the hetu 'fire' and for this there is not Ativyāpti.

Likewise in the wrong inference, "He has this stick which is not Caitra's, as he has this stick", there is the negation of the conjunction of the sādhya in Caitra who is also a substratum of the hetu 'this stick' and as such there is not Ativyāpti.

Thirdly, there is not Ativyāpti in the wrong inference, "It has specific existence other than that of quality and action, as it has a universal or a generic atribute", for in quality, a substratum of the hetu, there is the negation of the inherence of specific existence other than that of quality and action. Here the special point to be noted says Jagadīśa, is that there is not Ativyāpti because the inherence of existence is taken to be different from the inherence of specific existence other than that of the quality and action.

But it may be argued that no relation can have two relata at the same time and the definition does not apply to the inference, "It has both fire and smoke as it has smoke", for the negation of both fire and smoke, in the relation of conjunction, exists on the hill. In other words, fire-conjunction is different from smoke-conjunction, relation being manifold. Hence both fire and smoke, as determined by the relation of conjunction, cannot exist on the hill. Thus there is the negation of the sādhya in the locus of the hetu and as such the definition does not apply to this inference.

As a reply to this it may be said that there is the conjunction of fire and the conjunction of smoke separately on the hill, for if we deny this, there cannot be the valid knowledge that the hill has the conjunction of both fire and smoke. And if we admit this, there is no Avyāpti, as the conjunction of fire and that of smoke are not negated on the hill.

The difficulty of this reply is that the relation of conjunction is not the determinant of the knowledge of both fire and smoke in the red-hot iron-ball and there is no Ativyāpti in the fallacious inference, "It has both fire and smoke, as it has fire", as there is not the negation of the negation of both fire and smoke in the red-hot iron-ball. Hence in the inference, "It has both fire and smoke, as it has smoke", in which the sādhya has a collective virtue (vyāsajya-vṛttidharmena sādhyatavam), we should say that the substratum of the negatum, negated in the locus of the hetu, should not bear the generar relation determining the sādhya to this locus. And there is no harm in such a modification, as Vyāpti differs with the difference of the sādhya and the hetu. Now with this modification we find that the substratum of both fire and smoke, in the relation of conjunction, is the hill. Hence there is no Avyāpti here.

But it may be argued that both fire and smoke being a feature of knowledge, there can be a relation whose relata are both of these at once.

The reply to this argument is that knowledge is not a relation.

But[58] it may be objected that there is Avyāpti in the valid inference, "Time has the jar, as it has permanent knowledge". For in the relation of being objectified (Viṣyitā) both ether and the substratum of permanent knowledge exist and, therefore, Vyāpti cannot be determined with the help of the negation of ether in the locus of the hetu.

The reply to this objection, as Jagadīśa points out, is that in the relation of Viṣyitā (being objectified) the jar is of complete extensity and hence the question of a negation, which should characterise the locus of the hetu and whose negatum must not exist there and must not determine the sādhya, does not arise here. In fact, the proper conclusion in such cases is that (Jagadīśa here differs a bit from Raghunātha) Vyāpti is the co-xistence of the hetu with the sādhya which is not the determinant of the negatum of the general negation which abides in the sub-stratum of the hetu in self-relation whose relatum is the substratum-hood as determined by the determinant of the sādhya which is again determined by the relation determining the sādhya. And according to this view, there is no Avyāpti in the inference, "Time has the jar, as it has eternity." For the general negation of cloth, in self-relation whose relatum is the jar in time relation, exists in the substratum of the hetu and the jar is not the cloth. Jagadīśa further adds that Raghunātha ought to have said that in some relation, whose relatum is the negatum negated in the locus of the hetu, there ought to be the negation of both the relation determining the sādhya and the relation determining some substratum of the hetu. Thus in the inference, "It has fire, as it has smoke", the jar is negated in the relation of conjunction, on the hill. In the jar-conjunction there is the negation of fire-conjunction and hill-conjunction. The jar again is not fire. Hence the co-existence of smoke with fire is Vyāpti.

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[58] Knowledge is a quality of the subject according to the Nyāya. The object is related to knowledge in the relation of being objectified (viṣyitā) and knowledge is related to the object in the relation objectifying (viṣyatā) but knowledge itself is not a relation.

However, Raghunātha shows Vyāpti in the inference, "Time has the jar, as it has eternity", with the help of the negation of ether characterising eternity and this we have already explained. But there is a view that Time, i. e., eternity is the substratum of the world and ether exists in time relation. Even if this view is followed then also Vyāpti can be determined. In some negatum negated, in the relation determining this negatum, in the substratum of the hetu, there may be the negation of the determination of a particular essence and a relation. When the sādhya is determined by this particular essence and this particular relation, we have Vyāpti, Now in the inference, "Time has the jar, as it has eternity", the jar is negated in the relation of conjunction in eternity. But the jar in conjunction is not the same as the jar in time relation, i. e., the jar in time relation is negated in the jar in conjunction. Hence the jar in time relation is negated in the jar in conjunction. Therefore the jar in time relation pervades eternity.

But the question may be asked: What is the significance of the adjunct "some", when it is said that the sādhya is to be determined by the relation and essence which are negated in "aome" negatum, negated, in the relation determining it, in the locus of the hetu? The answer is that without this adjuuct there is Ativyāptī. Consider. for example, the fallacious inference, "It has smoke, as it has fire". The jar, which is negated in the locus of fire, has the negation of the determination of smoke and that of the relation of conjunction.

But with the adjunct 'some' in that negatum, there is no Ativyāpti, as smoke, which is negated in the relation of cojunction, in the red-hot iron-ball, is the sādhya in the relation of conjunction.

Again it may be asked: Why is it said that the sādhya is to be determined by both the relation and essence which are negated in the negatum negated in the locus of the hetu? Why should there be the negation of both this relation and this essence in the said negatum? The reply, as Jagadīśa says, is that there is Avyāpti, when the sādhya is the substratum of inherence in the relation of conjunction and the hetu is jar-hood. For in the jar there is the negation of the conjoioned or a substance in the relation of inherence and in the conjoined there are both conjunction and inherence. Conjunctjon is a quality which inheres in substance, But this Avyāpti does not occur, when in the conjioned, which is negated in the relation of inherence, in the jar, there are the negations of the inherence of the particular essence and of the relation of conjunction which determine the sādhya. And there is no logical bar to these two negations characterising that negatum.

But it may be objected that inherence being one and not manifold, it is enough if it is said that the relation, which does not determine the negatum negated in the locus of the hetu, should determine the sādhya. Hence some thinkers say here that sādhya is to be determined by the inherence or conjunction of the object whose inherente or conjunction is absent in the negatum negated in the locus of the the hetu. The sādhya is also to be determined by the essence which does not determine this negatum. In other words, the inherence of quality in substance is deferent from the inherence of the whole in its parts. Similarly the conjunction of one substance is different from the conjunction of another substance. The sādhya is to be determined by this specific inherence or conjunction which does not determine the negatum negated in the locus of the hetu. Thus though in the substratum of smoke, there is the negation of generic fire in the specific conjuntion, (i.e., e.g., in the water-conjunction), yet there is not Avyāpti, because the relata of specific conjunctions are not determined by the conjunction of generic fire.

Likewise the essence which is negated in the negatum negated in the locus of the hetu and which should determine the sādhya, should be specific. And for this there is no Avyāpti in the inference, "It has the holder of the stick, as it has the conjunction oi the holder of the stick", as in a specific stick negated in the locus of the hetu, there are the negations of the general stick and generic conjunction.

Again in the inference, "It has the known, as it is namable", the jar, which may be negated in some substratum of the hetu, has the negation of both the known in the relation of inherence and self-relation whose relatum is ether and hence there is no Avyāpti.

It may be argued that in the inference, "Time has the jar, as it has eternity", nothing can be negated in eternity in time relation which determines the sādhya; so the negation of the jar, in the relation of conjunction, in etererntty, has been selected to show Vyāpti (the jar-in-time-relation is not the jar-in-conjunction which is negated in eternity),

The reply to this contention is that in the inference, "It is known as curd, as it as .gross curd", the relation between the knowledge of curd and curd being objectifying (Viṣayatā), the curd as known is negated in curd in the relation of inherence or conjunction. But the known curd in the relation of conjunction or inherence is different from the known curd in the relation of Viṣayatā. Hence the known curd pervades the gross curd.

Thus the sādhya is to be determined by the relation and essence which are negated in the negatum negated in some substratum of the hetu. It may be argued here that colour pervades earth in the relation of conjunction, as the negatum of the negation of colour does not exist in the relation of conjunction, in a substratum. But this argument is wrong, for there is not Ativyāpti, because the co-existance of colour and earth is impossiblc in the relation of conjunction.

Bnt it may objected that there is Avyāpti in the inference, "He has riches, as he is Caitra", in which tha sādhya is determined by, the relation of ownership (svāmitva) which does not bring the consciousness of the support and the supported (vṛttyaniyāmaka).

The reply to this objection is that according to the formulator of the definition of Vyāpti, under discussion, even the relation of ownership is the determnant of its relatum.

Again it may be said that when the sādhya is determined by the relation which is not additional to the relation determining the sādhya, but which is negated in the negatum negated in the locus of the hetu, it pervades the hetu.

This view, however, is not correct, as we have Ativyāpti in an inference in which the sādhya is taken in a relation which does not bring the consiousness of the support and the supported (Vṛttyaniyāmaka). Consider, for instance, the wrong inference, "It has riches in the relation of ownership, as it is a substance". The sādhya "riches" is negated, in the relatsòn of inherence, in the locus of the hetu. But inherence is the negation of the relation of owership which is not additional to the relation determining the sādhya. Hence there arises Vyāpti between substance and riches in the wrong inference and the definition turns to be too-wide.

The proper view, says Jagadīśa. in such cases (i. e. when the sādhya is taken in a vṛttyaniyāmaka relation) is that when the sādhya is determined be the essence and relation which are negated in the specific negatum negated, in the relation determing it (this specific negatum) in the substratum of the hetu, it pervades the hetu. Further even if a vṛttyaniyāmaka-sambandha is not the determinant of its relatum, all the thinkers of the New School agree that such a relation brings out the determinant of its relation. Indeed it is a common agreement that in the proposition, "Caitra does not cook" Caitra has the negation of the effort to cook in the relation of helpfulness (anukūlatva sambandha) which is a vṛttyaniyāmaka-sambandha.

Similarly, in an execptional instance of wrong inference like, "It has riches in the relation of owner-ship, as it is a substance", there is not Ativyāpti, if in the negatum of the general negation of the sādhya, in the relation determining it, there is the negation of the essence and the relarion which are negated in the negatum negated in the locus of the hetu. In other words, if the sādhya is not determined by the essence and relation which are negated in the negatum negated in the locus of the hetu, there is no Ativyāpti in this wrong inference, Similarly, when time is taken as the support of the whole world and ether is taken to have existence in time in self-relation the sādhya pervades the hetu, when the sādhya is determined by the essence end relation which are negated in the negatum negated in the substratum of the hetu. Again in the inference, "It is knowable, as it is namable, there is the negationof the knowable, in the relation of inherence, in the universal or generic attribute, and so there is no Avyāpti; In other words, the knowable stands in the relation of being objectified (viṣayitā) and it is negated in the relation of inherence. But the knowable-in-inherence, which is negated in the locus of the hetu, is not the knowable in the relation of viṣayitā. Hence the co-existance of the knowable and the namable is Vyāpti.

Again if we consider inherence or conjunction to be unitary, then in the wrong inference, "It is a substance, as it[59] has a generic attribute", there is not Ativyāpti because substance-hood is negated in quality, which is a substratum of the hetu, in the relation of inherence. In other words, vyāpati in such cases, is determined by the view that the sādhya must not be determined by the negatum negated in the locus of the hetu.

It may be argued that the negatum, which is negated in the locus of the hetu and which does not determine the sādhya, cannot stand if self-relation. For a relation is pervaded by determinate or specific knowedge and self-relation is a peculiar relation in which the relatum itself is the relation, In other words, if the negatum negated in the substratum of the hetu, stands in self-relation, then it is determined by itself, i. e., it itself derermines its knowledge. Hence this negatum cannot be derermieed by self-relation (svarūpa-sambandha).

The reply of Raghunātha to this argument is that the said negatum may itself be called self-relation, but it is not the relatum of self-relation. Really, negation of this negatum characterises, in this relation, the locus of the hetu, but the negatum itself does not exist in this relation in its locus.

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[59] It may be held that the conjunction of water and the conjunction of fire are not different, because here the relata are different, but not the relation. Similarly, the relata of the relation of inherence may differ, but inherence does not differ on that account. But there is another view among the logicians of the New School that the conjunction of water is different from the conjunction of fire. Similarly, the inherence of quality in substance is different from the inherence of the whole in the part,

Similarly, the co-existence of the hetu and the sādhya should be taken in the relation of conjunction or inherence, but not in self-relation.

But it may be contended that when the hetu is taken in a vṛttyaniyāmaka-sambandha, it is determined by this kind of relation. So the co-existence of the hetu and the sādhya may also be taken in self-relation or attributivenes (viśeṣaṇatāviśeṣa-sambandha).

The reply to this contention is that only those relations which are known to be other than the relations which are adjectives of substantives (viśeṣya-viśeṣṇa-tvānya-viśiṣṭadhi-viṣaytvameva sambandhatvam) are relevant in the determination of Vyāpti. In other words, space relation, time relation and self-relation are adjectival in their nature (Vide the Introduction). On the other hand, there is vyāpti, when the hetu and the sādhya co-exist in the same locus in the same relation. Now this relation, in which they co-exist, should be other than these adjectival relations. Of course when the sādhya is negative, the hetu co-exists with it, in self-relation, as a negation characterises its locus in that relation. But when the sādhya is positive, it should be taken to pervade the hetu in some non-adjectival relation.

But it may be argued that there is Ativyāpti in the fallacious inference, "It has the negation of the jar, as it is a substances", if a positional negation does not exist in the locus of the hetu, but a negation other than the positional negation is taken to characterise it. In other words, there is the negation of the negation of the jar, i. e., the jar, in the substance and as such there is no Ativyāpti in the inference, "It has the negation of the jar, as it is a substance". But the jar, which is the negation of the negation of the jar, is a positional negation. If this positional negation is not allowed to exist in the locus of the hetu, then with the negation of some other thing the definition can be shown to apply to this fallacious inference.

As a reply to this contention, Raghunātha says that negation means a kind of self-relation (svarūpa-sambandha-viśeṣa) which determines such experiences as, "This is not here", "This is not on this" and so on and a positional negation also comes within the scope of this definition. When the jar does not exist in this place we have the negation of the jar in this place. But when the jar is replaced here. we have the negation of the negation of the jar. Though the jar here is positive, yet it is the same as the negation of the negation of the jar. Hence positional negation is also negation and as such there is no Ativyāpti in the above fallacious inference.

But the question may be asked, what is the negatum of the negation of negation? The reply is that the negation of the jar is the negatum of the negation of the negation of the jar. Here the jar contains the negation of its negation. But when the iar is negated, the jar is the negatum of its negation.

Thus Vyāpti is the co-existences of the hetu with the sādhya which is not determined by the essence of the negatum (or which is determined by the non-determinant of the negatum) absolutely negated i. e., entirely absent in the substratum of the hetu. And the special point emphasised. throughout this Chapter, is that difference in relation also determines negation. Fire, for example, is negated on the hill in the relation of inherence but not in the relation of conjunction. It is again to be remembered that the relatum (pratiyogī) and the substratum (Anuyogī) of a relation are different. Knowledge (the relatum), for example, is related, in viṣayatā (objectifying), to its object (the substratum). But these two are not identical. They differ on account of the relation of Viṣayatā which obtains between them.*

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* It may noted here that in the Navāya-Nyāya, a determinate knowledge implies a subjeet, a predicate and a relation between them which may be called the copula. The knowledge of the rose is the apprehension of the subject 'Rose' as having the predicate 'Rose-hood' in the relatisn of inherence. Determinate knowledge thus implies three factors: a subject, a predicate and a copula or relation between them. Here the two terms of the relation of which one is called the ptatiyogī and the other annyogī are different and they are different because a relation intervenes between rhem. But knowledge itself is a quality of the soul and not a relation,

CHAPTER VI

On The Nature of Determinant (Avacchedakatvanirukti)

(This Chapter is included in the Dīdhiti of Raghunātha but does not occur in the Tattva-Cintāmaṇi of Gangesa).

We have seen that the conclusive definition of Vyāpti, according to Raghunātha, is the co-existence of the hetu with the sādhya which is determined by the essence which is the non-determinant of the negatum absolutely negated in the locus of the hetu. Now the question is what is a determinant or avachedaka i.e, what is avacchedakatva or the essence of determinant? Raghunātha holds that the usual meaning of the essence of a determinant is a species of self-relation (svarūpa-sambandha-viśeṣa) & such relation is defined as the non-existence of the determined in the locus of its negation. But objection may be raised that the object, "determinant-hood" or "the essence of a determinant" here is not a type of svarūpa-sambandha. For bare existence or existence as such though the same as specific existence, is not the determinant of the negatum of the negation of specific existence, the perception that thers is the negation of existence in quality being valid.[1] In other words, existence is a universal inhering in substance, quality and action. Existence as such and the specific existence inhering in any one of them may be supposed to be the same, But when existence inhering in quality is negated, the determinant of the negatum of this negation is not existence as such but the specific existence-in-quality, because existence-in-quality has reciprocal negation with i. e., is other than existence as such. In fact in a bare property or a character undetermined by anything else, determinant-hood may be a kind of svarūpa-sambandha. But in a property further determined or specified by some other determination determinant-hood is not svarūpa-sambandha. Thus take, for example, (1) a specified character such as smoke-hood as a known content. Here we have not merely smoke-hood as such, but smoke-hood with the additional feature of being a known content,

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[1] Jāgadiśī, Vol. I, P. 257

(2) Another example is where we have not merely a bare substratum, but a substratum with the additional determination of being the substratum of a conch-like-neck.

(3) A third example will be where we have not a quality as such but a quality that is an object of smell. When any one of the above three will be sādhya or probandum in an inference, sādhya being non-determinant of the negatum negated in the locus of the hetu the above accepted definition of vyāpti will be too-wide and the inference consequently will be fallacious. Thus in the inference, "It has the knowable smoke, as it has fire", some locus of fire has the negation of the knowable smoke and so the inference is fallacious. But if knowable smoke-hood is the non-determinant of the negatum negated in the locus of fire, than there is Ativyāpti, as the sādhya is the knowable smoke. Again consider, the fallacious, inference "It is the substratum of conch-like-neck, as it has cloth-hood". This inference is fallacious, because the sādhya here is the substratum-hood of a conch-like-neck which is negated in cloth. But if here the substratum hood of a conch-like-neck does not determine the negatum negated in cloth, then there is Ativyāpti, as it determines the sādhya. Similarly there is Ativyāpti in the fallacious inference, "It has the quality perceived by smell, as it has substance-hood", if the quality-hood perceived by smell is the non-determinant of the negatum negated in the substance (the inference is fallacious, because the quality perceived by smell does not exist in every one of the nine substances, earth, water, fire, air, ether, time, space, soul and mind, but holds only of earth as a substance).

Another objection which is also urged against the view that determinant-hood is non-existence of the determined in the locus of its negation is that the specific being not the same as the generic, the consequence is ativyāpti or too-wide application. In other words, the hill smoke is not the same as smoke and to the fallacious inference "It has smoke, as it has fire", the definition applies, if determinant-hood is non-existance of the determined in the locus of its negation. To simplify the reason of this Ativyāpti further. The kitchen-smoke is identical with itself and, therefore, should not exist in the locus of smoke-hood; now in the fallacious inference, "The hill has smoke, as it has fire", the hill, the locus of the hetu, has the negation of the kitchen-smoke and smook-hood, the determinant of the sādhya, is the non-determinant of the kitchen smoke.

In the above fallacious inference, the sādhya 'smoke' exists in a plurality of substrata. So one may make the attempt to avoid the Ativyāpti by holding that non-existence of the determined in the locus of its negation (i.e,. determinant-hood) means, in connection with the negatum negated in the locus of the hetu, the non-existence of the totality of the negata of *all* the negations co-present with the hetu.[2] Now in the fallacious inference "The hill has smoke, as it has fire", smoke is the negatum of the all the negations co-present with fire and so there is no Ativyāpti (on -the hill, the locus of fire, there is the negation of the kitchen-smoke, ward-smoke etc. and smoke is equal to the sum of all these smokes). But if smoke is not considered to be the totality of the negata of all the negations co-present with fire, then fire is also not the same, i,e.. if smoke is not the sum of all kinds of smoke, then fire is also not the sum of all kinds of fire.

But it may be urged, that this device does not improve matters, as the defect of ativyāpti still remains. For consider the fallacious inference "The hill has smoke, as it has fire". There is the negation of the smoke as existing in the duality of fire and the jar, or the negation of the smoke as existing in the duality of fire-burning-grass and fire-burning-non-grass. in the locus of fire and the sādhya 'smoke' is determined by the non-determinant of smoke as existing in the quality of fire-burning-grass and fire burning-non-grass. Here again the question of fire burning grass and fire burning non-grass is not irrelevant for fire is neither more nor less than the possessor of the sum of the two attributes of burning grass and burning non-grass. But taking fire in this way, Ativyāpti is unavoidable. Hence non-existence of the determined in the locus of its negation or complete existence is not the object "determinant-hood" determining the negatum negated in the locus of the hetu in the foregoing concluding definition of Vyāpti.

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[2] Bhavānandī, Vol. I. P. 366-367.

Against the above objection it may argued that the negatum of a generic non-existence is a single negatum existing in all the negata of the particular negations and smoke-hood is such a generic negatum existing in all[3] the negata of its specific negations and not the sum of the negata of its specific negations. In other words, a general term should be taken distributively and not collectively. And if smoke-hood is taken distributively, then there cannot be Ativyāpti in the fallacious inference, "It has smoke, as it has fire", smoke being negated in some locus of fire.

But this view also cannot save the definition from Ativyāpti, for two contradictory objects like "burning grass" and "burning non-grass" together posit the entire or generic fire, there is the negation, on the hill, of the smoke as existing in the duality of the fire burning grass and fire burning non-grass and smoke is determined by smoke-hood-which is the non-determinant of the smoke-as existing in the duality of fire burning grass and fire burning non-grass.

Lastly, the object determinant-hood is not Svarūpa-sambandha because there arises Avyāpti in the inference, "The hill has the knowable fire, as it has smoke". Again Avyāpti occurs here, because knowable fire-hood[4] (which is a complex character but has the same nature as a simple or unspecified property) does not determine the hill, the locus of smoke.

Raghunātha's reply to the objections above stated are as follows:— According to Raghunātha the term "non-existence of the determined in the locus of its negation "implies (in connection with the negatum which is negated in the locus of the hetu and whose non-determinant is the determinant of the sādhya) the non-existence of the determinant of the negatum, negated in the locus of the hetu, in the locus of its negation. As a matter of fact, the concluding definition of Vyāpti means, according to Raghunātha, that Vyāpti is the co-existence of the hetu with the sādhya whose determinant is the non-determinant of the negatum negated in the locus of the hetu, and in this definition the object "determinant-hood' determining the negatum negated in the locus of the hetu should be taken to mean the non-existence of the determinant of this negatum in the locus of its (the determinant's) negation. Now in the fallacious inference, "It has the knowable smoke, as it has fire", the knowable smoke is negated in the red-hot iron ball, the locus of fire, and the determinant of the knowable smoke-hood is knowable smoke-hood which does not exist in a place where it is negated. In other words, the determinant "knowable-smoke-hood" is negated in the red-hot iron ball the locus of fire and the sādhya being the knowable-smoke, the question of Ativyāpti does not arise, Similarly, there is not Ativyāpti in the fallacious inference, "It is the substratum-hood of a conch-like-neck, as it has cloth-hood", the substratum-hood of the conch-like-neck being the determinant of the negatum negated in cloth (the conch-like-neck exists in the jar, and the substratum-hood of the conch-like-neck exists in the substratum of the conch-like-neck and not in the cloth). Lastly quality-hood perceived by smell is the determinant of the negatum negated in substance, the locus of quality, and so there is no Ativyāpti in the fallacious inference, "It has the quality perceived by smell, as it is a substance".

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[3] This is the view of Pragalbha, Vide, Jāgadīśī, Vol. I p. 260.

[4] Jāgadīśī, Ibid.

Thus the object 'determinant-hood' is the non-existence of the determinant of the negatum, negated in the substratum of the hetu, in the locus of its negation. But objection may be raised that the definition applies to no valid inference, because the duality of fire burning grass and fire burning-non-grass determines the negatum negated in the locus of the hetu and exists completely in fire[5]. In other words, the duality of fire burning grass and fire burning non-grass is negated on the hill, the locus of smoke and fire is equivalent to fire burning grass and fire burning non-grass and so there is Avyāpti in the inference "The hill has fire, as it has smoke". As a reply, Raghunātha says that the object 'determinant-hood' implies here that the determinant of the negatum negated in the locus of the hetu has a fixed extension which should neither be widened nor be narrowed. Now in the inference, "The hill has fire, as it has smoke", there is not Avyāpti, because duality is the non-determinant of fire whose determinant is unity. In other words, fire as determined by duality cannot be taken to be negated on the hill, as fire has one determinant, viz, fire-hood. But fire, determined by fire-hood, is not negated in the locus of smoke and so the alleged Avyāpti does not arise.

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[5] Bhavānandī, Vol. I. p. 370.

Thus when we speak of the negatum negated in the locus of the hetu, we must see that fhe extensity of the determinant of this negatum is neither lengthened not notrowed. If the real determinant of this negatum is unity, it should be taken to be negated as unity and not as duality. Similarly, when the collective extentity (paryāptí) of the determinant of the negatum negated in the locus of the hetu is duality, the same negatum should be taken to be negated as a dualty. Thus here the question is of collective extensity and not of the generic negatum (negated in the locus of the hetu) as being the sum of the specific negata (negated in the locus of hetu).

This extensity or collective exensity is a type of svarūpa-sambandha which engenders the belief that jar-hood has a single determining essence determined by which it exists, in its substratum when we make the proposition, "This single jar exists", or the belief in the existence of duality which determines the subject of the proposition "These two exsist". And as the extensity of the number "three" is not equal to that of number "two", Avyāpti cannot be shown in the inference, "It has both fire and smoke, as it has smoke," by the help of negation, in the locus of smoke, of the three negata of fire, smoke and ether.[6]

Thus the determinant of the negatum negated in the locus of the hetu (in the concluding definitiin of Vyāpti) is in any case a type of svarūpa-sambandha i.e, non-existence of the determinant of this negatum in the locus of its negation. And when the determinant of this negatum is unity, it does not exist in the locus of its negation as unity or when this determinant is duality, it does not exists there as duality and so on. Thus the number of the determinant of the object negated in the locus of the hetu is of crucial importance. Now there is not Avyāpti in the inference, "It has the knowable fire, as it has smoke", because fire, as determined by the duality of knowability and the fire-hood, is not negated on the hill, the locus of the hetu 'smoke', As a matter of fact, the object "determinant-hood" determining the negatum negated in the locus of the hetu, means also the generic attribute which is qualified by the character which is a determinant of the said negatum and which is unrelated with the substratnm (i.e, which does not exist in the substratnm) of the negation of the said negatum as determined by this charaeter.[7] Knowablity determining fire is a character determined by which fire does not exist in the locus of its negation. Hence knowable fire-hood is also a determinant of the knowable fire. But the knowable fire, as determined by knowability and fire-bood, is not negated on the hill, the locus of smoke, Hence the question of Avyāpti, in the inference, "It has the knowable fire, as it has smoke", does not a rise.

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[6] We have already explained extensity or colleetive extensity (Paryāpti) in Chapter I.

The object 'determinant-hood', which is non-existence of the determined in the locus of its negation, also means, in the concluding definition of Vyāpti, that determinant of the negatum negated in the locus of hetu, which is the non-determinant of the negatum of the negation abiding in its (the determinant's) specific locus.[8] And for this reason there is no Avyāpti in the inference, "It has existence," as it is denotatum of universal (sattvā-vān, jāteh), even, though existence has the same extensity as the specific existence other than that of quality which is the determinant of the negatum whose negation charaeterises a locus of the hetu 'universai'.[9] In other words, the substrata of the hetu 'universal' are substance, quality and action. There is the negation in quality of the specific existence

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7. Jāgadīśī, Vol. I. P. 265.
8. Dīdhiti, Vide also Bhavānandī, Vol. I. P. 381.
9. Dīdhiti.

other than that of quality. But even if existence (the sādhya) is the same as the existence other than that of quality, then also there is no harm, because here the determinant of the negatum negated in the locus of the hetu is the determinant of the negatum of the negation characterising a specific locus of existence.

But objection may be raised that there is Avyāpti in the inference "It has existence or being (sattvā), as it is an instance or denotatum of a universal (jāteh)", because the negatum negated in the locus of the hetu, instance of universal, may be determined by specific existence other than that of quality and also by relation of inherence and specific existence other than that of quality is not less extensive than existence.[10]

As a reply Raghunātha says that the sādhya should be determined by the non-determinant of the negatum negated in the locus which has the sādhya determined by its determinant. Now in the above inferenc, the denotatum of a universal is determined by existence in the relation of inherence (the relation determining the sādhy) and in such a substratum there cannot be the negation of the sādhya 'existence'.

But objection may be raised that there is Avyāpti in the inference, "It has the knowable fire, as it has smoke", because the determinant of the negatum negated in the locus of the knowable fire as determined by knowable-fire-hood is a complex character or determination and as such the non-determinant of this negatum is unspecific.[11] In other words, in the inference, "It has the knowable fire, as it has smoke", the hill, the locus of smoke, is determined by the knowable fire and the kitchen-fire is negaied on the hill. But kitchen-fire-hood is a comlex determination and its non-determinant should be an unspecific determination or character. Again the sādhya is determined by a complex determination and hencs there is Avyāpti.

As a reply, Raghunātha says that the non-determinant of the negatum negated in the locus of the hetu implies all the determinants which are different from the determinant of that negatum. And in the inferenc, "It has the knowable fire, as it has smoke", the negata negated in the locus determined by the knowable fire have for their non-determinant all the determinants which are different from the determinants of the these negata and such a non-determinant determines the sādhya, knowable fire.[12]

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[10] Bhavānandi, Vol. I. P. 395.

[11] Ibid, P. 400.

Thus the locus determined by the sādhya, which is determined by its determinant, should have the negation of a negatum whose non-determinant should be the determinant of the sādhya. But this locus again should be determined by the relation determining the sādhya and the negatum negated there should be negated in the relation determining the sādhya. And for this there is no harm, even if a negatum is negated in the locus, determined by the sādhya as such, in the relation which does not determine the sādhya and the determinant of the negatum determines the sādhya. Similarly, there is no harm, if the locus determined by the sādhya as such is determined by a relation which does not determine the sādhya and the determinant of the negatum, negated in this locus, determines the sādhya.

But it may be objected that the inference, "Time has relation to the jar, as the jar is limited (in time and space)", the substrata of the jar as such in time relation cannot have the negation of an object in time relation.

As a reply to this Raghunātha says that when the sādhya is determined by time relation, the negatum negated in the locus determined by the sādhya as such in the relation determining it, is determined by an individuating principle having beginning and end in time. In the inference "Time has relation to the jar, as the jar is limited (in space & time)" the locus determined by the present jar has the negation of this or that past jar and, therefore, the locus, in which the sādhya as such is negated in time relation, can have the negation of an object in some time relation.[13]

But the negation, which characterises the locus determined by the sādhya as such in the relation determining it, has its negatum existing in an opposed substratum. In other words, it is not a negation whose negatum is determined by the essence of an opposed substratum.

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[12] Ibid.

[13] Ibid. P. 402. All objeets and negations of objects, according to Nyāya, have relation to time.

But objection may be raised that the negation having its negatum abiding in an opposed locus (i.e, in a locus in which the negation does not exist) is unnecessary in the concluding definition of Vyāpti as well as in the definition of determinant-hood, because the object determined by conjunction existing in the substratum of the negation of the object determined by conjunction, there is no scope for Avyāpti.[14] In other words. in the inference, "It has conjunction, as it has substance-hood", conjunction-hood determines a substance negated in substance, the locus of the hetu (i.e, a particular substance may not be conjoioned with a substance which is a locus of the hetu) and yet another substance bears the relation of conjunction to the locus ol the hetu. Thus conjunction-hood is not the object 'determinant-hood' in this inference. On the other hand, ether-hood is such a determinant, for ether-hood being different from conjunction hood, there is no Avyāpti in this inference[15]. In other words, ether-hood is different from substance-hood as well as from conjunction-hood and hence there is Vyāpti between substance and conjunction. Similarly, there is not Ativyāpti in the fallacious inference "It has conjunction, as it has existence", because though in the locus of the negation of a negatum determined by conjunction-hood, there is the existence of a substance in the relation of conjunction, yet in the locus of the negation of substance-hood, which is negated in quality, the locus of the hetu, there is not conjunction.[16] In other words, conjunction is negated in quality, one of the substrata of the hetu 'existence', and as such there is not Ativyāpti, even though conjunction exists in another substratum (viz substance) of the hetu.

But this objection is meaningless, as without this (i.e. the negation characterising the locus of the hetu having its negatum existing in a different locus) there is Ativyāpti in the fallacious inference "It has smoke, as it has fire".[17] Here there is not Ativyāpti, because smoke in negated in the red-hot iron-ball which is the substratum of the hetu 'fire' and in which smoke does not exist. But if we select any other substratum of fire, then smoke exists there. Thus Ativāpti in this fallacious inference is obviated simply because the negatum negated in the locus of the hetu does not abide in that locus. Hence it must be definitely stated in the definition that the negation charactersing the locus of the hetu should have its negatum abiding in an opposed locus.[18] As a matter of fact smoke exists in the kitchen in the relation of cojunction at the time of the origin of fire. But the conjunction of smoke never exists in the red-hot iron-ball (the locus of fire) in which there is the absolute negation of smoke which is determined by smoke-hood. In other words, the red-hot iron-ball is never the substratum of the conjunction of smoke and it is the red-hot iron-ball which is to be selected as the locus of the hetu to avoid Ativyāpti in the fallacious inference "It has smoke, as it has fire". To say that smoke has conjunction in some substratum of fire and, therefore, the negation characterising the locus of the hetu should not be stated to have its negatum existing in a different locus is unmeaning.

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[14] Jāgadīśī, Vol. I, p. 276. Vide also Dīdhiti.

[15] Bhavānandī, Vol. I: P. 405.

[16] Ibid.

Thus the negatum negated in the locus of the hetu should have a locus different from that of its negation. And the object "determinant-hood" is the essence, specified by itself (the determinant), which does not exist in the substratum of the negation of the negatum which is determined by the essence and relatitn determining the negatum negated in the locus of the hetu. Thus in the fallacious inference, "It has smoke, as it has fire", the negation of the red-hot iron-ball determines the negatum whose negation characterises the locus of the hetu and which is determined by self-relation; but in the locus of the negation of the negation, in self-relation, of the red-hot iron-ball, the object specified by smoke-hood does not exist. Hence the object 'determinant-hood' if defined in the above manner,

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17. Dīdhiti.
18. Bhavānandi, Vol. I, P. 405.

does not bring Ativyāpti.[19] In other words, there is the negation of the negation of the red-hod iron ball in the locus of fire and here the negatum of the negation characterising the locus of fire is the negation of the red-hot iron-ball. But the negation of the red-hot iron-ball is determined by self-relation and the locus of the negation of this negation is the red-hot iron ball in which smoke does not exist. Hence Ativyāpti does not occur, if the object 'determinant-hood" is the non-existence of the object, determined, by the essence 'determinant-hood', in the locus of the negation of the negatum which, as determined by the relation and essence determining it, is negated in the locus of the hetu.

But (it may be alleged that) in the inference, "It is an instance of universal, as it has existence "(Jātimān, sattvāt), the determinant of the negatum which, as determined by self-relation, is negated in the locus of the hetu 'existence', has the form of the substratum-hood of the universal and in the negation of the said substratum existence of inhering is absent and as such the definition of the object 'determinant-hood' does not fit this inference (the relation of a universal to its particular locus or instance is inherence and so it is negated there in self-relation which is not the relation of inherence); again the universal as determined by self-relation is negated in all its instances (because the relation of a universal to its particular instances is not self-relation, but the relation of inherence) and hence in a locus of its negation it may be negated in the relation of inherence which determines it.

This alleged difficulty disappears, if the sādhya, as determined by its determining relation, is negated. In the inference, "It is an instance of a universal, as it has existence", the sādhya, as determined by the relation of inherence, cannot be negated in the locus of existence. Similarly, in a fallacious inference, the sādhya, as determined by the relation determining it, is negated in the locus of the hetu and as such there is not Ativyāpti. Ativyāpti also does not occur, when the object 'determinant-hood' determines the negatum negated in the locus of the hetu which is determined by its determining essence. Thus Vyāpti is the co-existence of the hetu with the object which is determined by the essence of the sādhya. which essence is determinant of the non-determinant (i. e which is the non-determinant) of the negatum which is negated in the locus of the hetu in self-relation or which essence of the sādhya does not exist in the generic negatum which is negated in the locus of the hetu in self-relation.

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[19] Ibid. P. 408-409.

Thus the object 'determinant-hood' determining[20] the negatum negated in the locus of the hetu is the non-existence of this negatum as determined by the relation and essence determining it, in the locus of its negation. Now in the inference, "It has the knowable fire, as it has smoke" the jar is negated in the locus of smoke and the jar, as determined by the essence 'jar-hood' and the relation of conjunction, does not exist in the locus of its negation in the relation of conjunction. So here jar-hood (and not knowable fire-hood which determines the sādhya) is the determinant of the negatum (the jar) which is negated in the locus of the hetu 'smoke'. But in the inference, "Time has relation to the jar, as it is limited (in space & time)", the negation of the sādhya 'jar' is absurd in time relation which determines it (the sādhya 'jar'). Hence there is no Avyāpti. Again there is the perception that the substratum of the conch-like-neck does not exist, when the jar is negated and hence a complex character like the substratum-hood of a conch-like-neck determines the negatum negated in the locus of the hetu and as such there is not Ativyāpti when the sādhya is determined by this complex character (the substratum-hood of a conch-like-neck) in a fallacious inference. But when a single jar, which is the substratum of a conch-like-neck, exists on the ground, we have not the perception of the negation of the substratum of the conch-like-neck. On the contrary, when the jar as such or the universal jar is negated on the ground, we have the perception that the negatum 'jar', as determined by the substratum-hood of a conch-like-neck, is negated on the ground. Really, if a complex character does not determine the negatum negated in the locus of the hetu, then there occurs Avyāpti even in the inference, "It has the knowable fire, as it has smoke", the knowable fire-hood being a complex character. In other words, if a complex character does not determine the negatum negated in the locus of the hetu, then it should not determine any object. But the knowable fire-hood is a complex determination and it does determine the sādhya which well pervades the hetu in this inference. Hence a complex determination well determines the negatum negated in the locus of the hetu.

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[20] Dīdhiti.

Raghunātha himself cites inferences. in which Avyāpti arises, if a complex character is not admitted to determine the negatum negated in the locus of the hetu. In the inference, "It it a substance, as it has quality", or in the inference, "It is a substance as it has specific existence other than that of quality and action", the determinant-hood of the negatum of the absolute negation co-present with quality or the specific existence other than that of quality and action is a compound determination whose negation characterises the determinant of the sādhya. But if omitting this compound character, we say that the determinant of the negatum negated in substance, should be negated in the determinant of the sādhya, then vyāpti can hardly be determined, For in substance it is negated in inherence and the sādhya being substance-hood, Avyāpti results. Similarly, some other specific negation may be shown in substance and the determinant of the negatum of this negation may again be shown to determine the sādhya. The result of this will be that Vyāpti will never be determined. Really if we reject a compound character or determination as being unfit to determine the negatum negated in the locus of the hetu, then the determinant-hood of the negatum negated in the substratum of substance-hood is to be rejected, in favour of the determinant-hood of the negatum negated in substance the latter being simpler than the former. But this is a meaningless distinction. Again to reject a compound determination as belng logically unsuited for determinant-hood is to accept the absurd position that the negation of specific existence or of any specific negatum can never be shown in the locus of the hetu, the specific existence or the determinant of a specific negatum being a compound determination. Hence a compound determination is the determinant of the negatum negated in the locus of the hetu and if this compound is the non-determinant of the sādhya, then there is Vyāpti. Similarly, where a compound determination is the determinant of the sādhya in a fallacious inference, the sadhya, as determined by such a compound, is negated in the locus of the hetu and as such Ativyāpti does not occur. Thus in the fallacious, "It has the quality perceived by smell, as it has substance-hood", the quality perceived by smell does not determine every substance and as such there is no Ativyāpti.

CHAPTER VII

GENERAL NON-EXISTENCE (SĀMĀNYĀBHĀVAḤ)

We have seen that Gaṅgeśa's concluding definition of Vyāpti is the co-existence of the hetu with the sādhya which is not determined by the determinant of the negatum which is absolutely negated in the locus of the hetu, But objection may be raised against this definition on the following grounds:—

The several negations of fire, which engender together the knowledge of the non-existence of fire in the lake, characterise individually the kitchen etc[1]. When the hill-fire, the kitchen-fire, the yard-fire etc, are all (severally) negated in the lake, we have the perception of the non-existence of fire in the lake. Now if we consider the inference "The hill has fire, as it has smoke", the kitchen-fire is negated on the hill, or if we take the inference, "The kitchen has fire, as it has smoke", the hill-fire is negated in the kitchen and so on. But firehood determines the kitchen-fire, the hill-fire,[2] the field-fire etc. Hence the sādhya is the determinant of the negatum which is negated in the locus of the hetu. And thus, though these inferences are valid, there is no application of the definition to these cases. Hence there is the charge of avpāpti. It may be replied against this objection that (the sādhya) fire, which exists in the substratum of smoke, is not the negatum negated in the locus of the hetu. But it may again be objected that the definition is guilty of Ativyāpti, because that which is determined by non-existence-in-the-lake which again is the determinant of the negatum of the specific negations of smoke in the lake exists in the red-hot iron-ball. In other words, though it may be argued that in a correct[3] inference like, "The hill is fiery, as it is smoky," fire, which determines the kitchen-fire or the yard-fire that is negated on the hill, exists on the hill, yet in the fallacious inference,

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[1] Dīdhiti.

[2] Bhavānandī, Vol. I, p. 423.

[3] Dīdhiti. Vide also Jāgadīśī, Vol. I. p. 285.

"The hill is smoky as it is fiery", there is Ativyāpti, because smoke does not exist in the lake, non-existence-in-the lake is the determinant of the negatum of the negations of specific smokes and what is determined by the non-existence in the lake exists in the iron-ball which has fire.[4] In other words, the perception of non-existence in the lake has for its object the negations whose negata are those individuals which do not exist in the lake. Specific kinds of smoke come among these individuals. So non-existence in the lake is the determinant of the negatum of the negations of these specific smokes. The iron-ball is also determined by non-existence in the lake and exists in the substratum of fire. So the determinant of the negatum of all the specific negations of smoke. (i. e, the determinant of smoke) determines the co-existence with fire and as a result there is Ativyāpti.[5]

As an answer to this objection, Gangeśa[6] says that the negation, whose negatum is a universal, is a distinct type of negation (and not simply the aggregate of the individual negations). Otherwise there would not be the doubt as to whether air has colour inspite of the perception of the negation of all known colours in air. This doubt explains that the general negation is something additional to the collection of individual negations. There is the definite perception of the negation of each individual (known) colour and hence of the sum of all (known) colours in air and yet there is the doubt whether air has colour or not. This doubt is proof of the separate existence of "general" negation (sāmānyābhāva).

This doubt is not concerning the substantive air, but about an adjective of air, i. e, whether air is coloured or not. Nor again is the doubt about colour itself. The doubt is about the precise relation between air and colour, i. e, whether it is a positive relation of one being qualified by the other or a negative relation of exclusion of one by the other.

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[4] Bhavānandī, Vol. I. p. 424.

[5] Kṛṣṇadāsa, Anumāua-dīdhiti-prasāriṇī, p. 184. Vide also Gādādharī, Vol. I. p. 529.

[6] Tattva-cintāmaṇi.

Gangeśa presents this doubt in a two-fold manner:

1. It is known that all the recognised colours are negated in air and yet there is doubt whether there is colour in air or not.

2. It is known that air is other than i. e, different from the substrata of recognised colours and yet there is doubt whether air is the substratum of colour or not[7].

Here a School of thinkers says that the second[7] doubt is expressive of reciprocal[8] non-existence and hence is different from the first. But reciprocal negation is not necessarily expressive of doubt, as reciprocal negation obtains between any two qualities or things which are not exactly identical. Hence Raghunātha says that doubt arises when two contradictory characters seem to abide in the same substance though really the same substance can not have incompatible characters at the same time. In the particular case under discussion, doubt is with regard to air as possessing colour or not, i. e whether colour-exists in air or its negation characterises air.

According to a third view the doubt here[9] is with regard to colour as existing or not existing in air, for if it is ce tain that there is the non-existence of all individual colours in air, a doubt with regard to the existence of colour in air does not arise. Otherwise, i. e, if such a doubt arises here, doubt[10] will also arise about the existence of the jar[11] on the ground, when it is definitely known that the jar exists on the ground or about the non-existence of the jar on the ground, when it is ascertained that the jar is absent on the ground.

Thus this view holds that the doubt about the existence of colour in air is dispelled, if all the negations of colour are ascertained in air. But when the negations of all colours are not known, doubt remains. This opinion amounts to the position that (1) we have no exhaustive knowledge of all the negations of colour, (2) nor have we an exhaustive knowledge of the possible *ways* in which colour may be negated,

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[7] Tattva-cintāmaṇi.

[8] Referred to in the Dīdhiti.

[9] Jāgadīśī, Vol. I, p. 287.

[10] Vide Dīdhiti and Bhavānandī, Vol. I, p. 430.

[11] Gādādharī, Vol I, p. 539.

(3) we have also no exhaustive knowledge of the negations characterising the object where colour is found to exist and (4) lastly, we have also no exhaustive knowledge of all the negations that hold of the colours that are negated.[12] Of these the first and the third do not come up for consideration, for the determination of these negations takes place through their existence in objects. Nor the second and the fourth stand logical scrutiny. For even if all the negata and all their negations are not apprehended, there is the sure knowledge that that the jar does not exist on the ground through its non-perception there. But this sure knowledge removes the doubt about the jar and its non-existence. Hence the term "all" as an adjunct of the negata and their negātions is unmeaning in creating doubt.

It may be argued that the certainty[13] of the negations of all colours, as reinforced by the certainty of the absence of the possibility of any additional colour, is opposed to the doubt regarding generic colour.

It may be objected against this[14] argument that any additional colour being unrecognised, the question of the possibility of an additional colour need not be reaised.

As a reply, it is said that the question is whether it[15] is possible that colour is different from earth, air, etc, or not. But this possibility disappears, when it is certainly known that colour is not diffirent from earth, air, etc.

This argument, according to Raghunātha, is cumbrous and hence absurd. Further even when there is no possibility of any additional colour and there is the certainty of the negations of specific colours, the doubt about the existence of the generic colour remains. But if a negation whose negatum is a generic odject does exist, then all such doubt is dispelled. If the generic colour is negated in air, then there can be no doubt about the non-existence of colour in air. Hence a general negation in addition to the specific negations is a fact. No amount of summation of particular negations amounts to a general negation. A general negation is a distinct type of negation different from a sum or aggregate of particular negations. And a general negation being certified by experience, the doubt under discussion does not arise, i. e, the certainty displaces the doubt.[16]

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[12] Dīdhiti and Jāgadīśī, Vol. I, p. 289.

[13] Dīdhiti and Bhavānandī, Vol. I, p. 431-432.

[14] Gādādharī, Vol. I, p. 541.

[15] Bhavānandī, Vol. I, p. 432.

But it may be objected that colour is not perceived in the two jars which are held very close to the two eyes and so the generic colour can not be the negatum of these particular negations and hence what we call the negation of the generic colour turns out to be additional negation not through colour but through the substrata of colour in the two jars.[17] In other words, even in some coloured objects, sometimes colour is not perceived, and hence individual negations can not have a generic negatum. But even in the coloured object there is the negation of some colour.[18] Hence the negation of generic colour depends on the nature of its substratum.

As a reply to this objection Raghunātha says that when we have negation which is true of every instance of a class of negations, or when an adjectival character is pervasively absent in all the several particular instances of its absence, we have the sāmānyābhāva or the negation of a generic character (Abhāvasya ca yāvatviśeṣābhāvādhikaraṇavṛttitvena viśiṣṭasya tadavacchedena vā sāmānyāvacchinnapratiyogitākatvam).[19] And this negation of a generic character in the substrata of all its particular negations is possible, because the generic negation is separate from the sum of particular negations. The sum of the particular negations does not characterise the substratum of each and every particular negation. But the generic negation being separate from the aggregate of particular negations, characterises the substratum of every particular negation and hence is true of all particular negations. If the negation of the generic colour characterise a substance, then it has no kind of colour (when p is a universal and its instances are p_1, p_2, p_3, etc, not-p is not not-p_1+not-p_2+not-p_3+etc.

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16. Jāgadiśi, Vol. I, p. 289.
17. Bhavānandī, Vol. I, p. 433.
18. Jāgadiśi, Vol. I, p. 289.
19. Dīdhiti.

For not-p is true of not-p_1, of not-p_2 or of not-p_3 and not-p_1+not-p_2+etc., is not true of not-p_1 or of not-p_2).

It may be argued that a generic character, an individual character determining the negata of a generic negation and an individual negation respectively are different and, therefore, a generic negation and an individual negation are different.[20] And because the differenee of the negata of the negations makes the negations different, therefore, the absolute negation, antecedent negation, emergent negation or destruction as well as reciprocal negation of a particular jar are not differenr. But the different kinds of negation of the same jar are determined in different ways. The reciprocal negation of that jar is determined by the relation of identity, its absolute negation by the relation of conjunction, its antecedent negation and destruction by its future and past existence.[21]

But this view is defective. For the negata of the three kinds of samsargābhāva (negation other than difference or reciprocal negation)* can not be said to have the same determinant and there is no proof that past and future existences determine the negata of the negation which is destruction and antecedent negation in all cases.[22] The propositions, "The jar does not exist", "The jar is destroyed" and

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[20] This is the view of Pakṣadhara Miśra, Vide Gādādharī vol. I, p. 544. Raghunātha criticises the view.

[21] Ibid, p. 545-546.

* Naiyāikas distinguish between samsargābhāva as one kind of negation and anyanyābhāva as another. By samsargābhāva they mean negation in some relation other than the relation of identity. It thus means entitative negation of which Naiyāikas recognise three varieties viz, the negation which is signified by *not-yetness*, the negation signified by *no-moreness* and lastly, negation for all time or without reference to temporal limitation. Thus when we say "The jar is not yet," or "The jar is no-more" or "There is no consciousness in a material atom," we convey the entitative non-existence of the jar i.e. its past non-existence (before production) or its future non-existence (i.e after destruction) and the non-existence of consciousness in the atom without limitation in time. But when we say, "The jar is not a cloth", what we deny is neither the jar as an entity nor the cloth as an entity bnt only the relation of identity between the jar and cloth.

[22] Dīdhiti.

"The jar will come into existence" are expressive of absolute negation, negation which is destruction and antecedent negation respectively. But in all these cases we do not get the same jar. The jar that is destroyed is not the very jar that will come into existence.

Again the difference of determinants does not necessarily make the negations different. Absolute negation, antecedent negation and reciprocal negation are not differentiated from each other by their own nature.[23] Further it can not be said that whenever there is the difference of the determinants of the negata, there is also the difference of the negations,[24] because the negation and its negatum do not exist in the same substratum. And if the negation and its negatum do not co-exist, the difference of the negata is not pervaded by the difference of negations. Colour-hood and "that" colour differ, but their negations do not differ,[25] because the negation of both of them characterises air. There is also no invariable concomitance between the negation of "that" colour and the negation whose negatum is different from the negatum of the negation of colour-hood.[26] And such an invariable concomitance being not guaranteed, the negatum of a negation may be determined variously, namely, by this or that colour, this or that taste, this or that pleasure, this or that pain, yet the negation may not differ, in these different cases. As a matter of fact, negations differ, not because their negata are not the same, but because their substrata are incompatible. Just as affirmations differ, when they have incompatible substrata, so do negations. Thus the absolute negation of the objects pervading the same space and time is one and the same. Similarly, the antecedent negations and destruction of things, which come into existence at the same moment and are destroyed simultaneously, are but the same, if there is no opposition in their occupying the same space. And if the negation whose negatum is determined by the essenee of an opposed substratum is taken to be valid, then the negatum of one such negation is determined by all the essences of all opposed substrata, as also by all the relations of the same as well as of opposed substrata.[27] In fact, if a negation whose negatum is determined by the essence of an opposed substratum is admitted, then its negatum may be determined by any relation. Further there is no distinction between the negation whose negatum is determined by the essence of an opposed substratum and a negation whose negatum is determined by the relation of an opposed substratum.[28] Ether is negated in the relation of inherence and this negation of ether is the same as its negation through the essence of an opposed substratum.

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[23] Gādādharī, Vol. I, p. 546.

[24] Bhavānandī, Vol. I, p. 437.

[25] Ibid.

[26] Dīdhiti.

Thus the difference of negations is determined by the difference of substrata and not by the difference of their negata and the generic negation is additional to the sum of the particular negations. But if the generic negation is identified with the sum of particular negations, the very difference of negations is obliterated, because there is no logical opposition in admitting the same negation as having various negata, both universals (like cow-hood and horse-hood) and particulars (like a particular jar or a particular cloth).[29] Here the negations of the different things like the jar, cloth etc, become identical, because the different negata do not make the negations different, but the negations characterising the same locus are the same. The result is that the negation of colour-hood and the negation of this or that colour become equalised, because both these negations characterise air. But elsewhere a particular colour may be negated, and not all colours. In a black thing white is negated. So the negation of white does not mean the negation of all colours. Thus if the generic negation and particular negation become identical, then colour is to be denied even in an object which has colour. Hence the generic negation is separate from particular negations. But as the universal inheres in many things and yet is not identical with them, so the generic negation characterises the substrata of each of the several particular negations and yet is not identical with them. In fact, the negation of the generic object is not circumscribed to a collective number.[30] The negation of colour-hood does not mean the negation of colour in any definite number objects.

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[27] Dīdhiti.

[28] Gādādharī, Vol. I, p. 551.

[29] Ibid. Vide also Dīdhiti.

But if the generic negation is supposed to be limited to a collective number, logical difficulties arise. Just as the jar and the cloth existing in different substrata appear as a duality, so the simultaneous conjunction of the senses with two opposed substrata of particular negations would give rise to the knowledge of generic negation[31] (if the generic negation is supposed to be limited to any definite number). In other words, the perception of the jar and the cloth would produce the perception of the non-existence of the generic colour, because the negations of the specific colours are conjoined in these two.[32] Further the perception of quality as inhering in a number of things does not require the perception of all the substrata of quality. But it may be argued that the existence of a character in a number of things is a matter of ordinary perception and hence if all the substrata of quality are not perceived, the character of quality as existing in a definite number of things is not perceived. The reply is that the existence of a relation in a number of things is realised, even if all the substrata of that relation are not perceived.[33] And this being true of relation it may be said that the knowledge of the generic negation arises when only one negation is perceived. But if the knowledge of a character as existing in a number of things depends on the contact of the senses with all the substrata of that character, then the knowledge of those substrata, as well as the knowledge of the differences of these substrata among themselves depends on the sense-contact with these. For in the absence of the sensuous contact with these substrata and their differences, the existence of a character in a number of things cannot be known and the wrong perception of the substratum leads to the wrong perception of that character. But in the knowledge of the generic negation, it is not a fact that the all the particular negations, which are different from each other, are perceived earlier than the perception of the generic negation, because here all the particular negations are not perceived one by one.[34] In other words, the generic negation not being defined by any collective number, the perception of the generic negation does not mean the perception of every particular negation one after another. Indeed in connection with this discussion on the nature of generic negation, the opinion of Vāsudeva Sārvabhauma is worthy of notice. According to Sārvabhauma the idea of generic negation as equivalent to an infinite number of particular negations or as being limited to a collective number is cumbrous; so far the sake of simplicity a generic negation should be considered to be only one negation.

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[30] Didhiti.

[31] Ibid.

[32] Jāgadisi, Vol. I, p. 296.

[33] Bhavānandi, Vol. I, p. 444.

But it may be argued that the ideas of the generic negation and its substratum are not simpler than the ideas of the generic negation and its characterisation of a collective number (of substrata).[35]

The reply is that though in both cases there are two ideas, yet the idea of the generic negation being one separate negation is simpler than the idea of the generic negation as characterising a collective number of subtrata. Indeed the generic negatation characterises its substratum in self-relation and the generic negation characterising a collective number of substrata is determined by the relations of collective extensity and self-relation.[36]

But it may be argued that collective extensity being not known to be determined by any other relation, the separateness of the generic negation in the particular negations is determined by the relation of collective extensity but not by self-relation and so there is no cumbrousness in the idea of the negation as having only collective extensity in all the particular negations,[37]

The reply to this argument is that even if Vinigamanā (the validity of one of the two contending arguments i.e a crucial instance) is not admitted here, the separate existenee of the generic negation is valid. For of the two contending views, one may be false, both may be false, and both may be true and in the particular case under consideration, if the relation of the collective extensity of the generic negation is valid, its separate existence in the substratum which is not determined by the relation of collective extensity, is equaliy valid, the non existence of colour hood being perceived in air.[38]

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[34] Dīdhiti and Jāgadīśī, Vol. I, p. 298.

[35] Jāgadīśī. Vol. I, p. 299.

[36] Dīdhiti and Jāgadīśī, Vol. I, p. 300.

[37] Jāgadīśī, Ibid.

But it may again be argued that though the generic negation of colour is one additional negation yet the conception of this negation as characterising an infinite number of substrata is more cumbrous than the conception of the generic negation of colour as the aggregate of the particular negations of colour and as characterising a collective number of substrata. The reply is that the generic negation of colour is perceived as a separate negation and so the conception of this separate negation as charaterising an infinite number of substrata is a fruitful one and as such the alleged charge of cumbrousness is baseless.[39]

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[38] Jāgadīśī, Vol, I, p. 300.

[39] Dīdhiti and Bhavānandī, Vol. I, p. 448-449.

CHAPTER VIII

INVARIABLE CONCOMITANCE OF THE SPECIFIC (VIŚEṢA-VYĀPTI) AND THE FOUR COROLLARIES (ATAEVA-CATUSTAYAM)*

Just as there is invariable concomitance between the generic smoke and the generic fire, so there is invariable concomitance between the hill-smoke and the hill-fire, the kitchen-smoke and the kitchen-fire, the yard-smoke and the yard-fire and so on. Now how can these specific Vyāptis be defined? Gangeśa gives several definitions. Firstly Viśeṣa-Vyāpti (Invariable concomitance of the specific) is the co-existence of the hetu with the sādhya which is not the negatum of the absolute negation which characterises the substratum of the hetu but whose negatum does not exist there (Pratiyogivyadhikaraṇa-svasamānādhikaraṇātyantābhā-Pratiyoginā sāmānādhikaraṇyam).[1] If M is the hetu and P the sādhya, then this definition is= Viśeṣa-Vyāpti is the co-existence of M with P which is not absolutely negated in the locus of M (here the absolute negation is pratiyogi-Vyadhikaraṇa, i. e. the locus of the negatum and that of its negation are incompatible).

Now Raghunātha says that this definition does not apply to the inference, "It has colour, as it has earth-hood" in which the sādhya is several colours and the hetu is the singular earth-hood.[2] For any and every colour can be shown to be negated, according to the principle of successive elimination (Cālanīnyāya), in particular pieces of earth.[3] It may be argued that in this case the real sādhya is the substratum-hood of colour and in the relation of the substratum-hood of the substratum of itself the sādhya is colour-hood (i. e. the substratum-hood of colour means the substratum of colour hood). But colour-hood is not negated in earth in that relation[4]

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* The four corollaries deal with the limiting adjunct (Upādhi) of the hetu.

[1] Tattvacintāmaṇi.

[2] Dīdhiti and Bhavānandī, Vol. I. p. 450.

[3] Jāgadīśī, Vol. I. p. 302.

[4] Dīdhiti and Jāgadīśī, Ibid.

(i. e. the substratum of colour-hood is colour and the substratum of colour is earth), So the alleged Avyāpti has no logical basis.

The reply to this argument is that the inferential conclusion from this Vyāpti is not that earth has colour.[5] In otherwords, in the inference in which the Pakṣa is earth, which is known to possess the hetu 'earth-hood' which is the concomitant of colour, the conclusion is that earth has colour. But the relation of colour to earth is not the substratum-hood of the substratum of itself.[6] So the conclusion that earth has colour does not follow, if the sādhya is taken in the above manner.

In the second place, there is Avyāpti in the inference "It has existence, as it has substance-hood", for there is the negation of specific existence other than that of substance in substance. Here there is Avyāpti, because the sādhya is complete or generic existence and in substance the existence inhering in quality or the existence inhering in action is negated.[7]

But it may be argued that in this inference, the negatum of the negation characterising the locus of the hetu should not be specific and so the alleged Avyāpti does not occur.[8]

As a reply, Raghunātha says that if this Avyāpti is not allowed, then Ativyāpti must have to be admitted in a fallacious inference. Consider, for example, the wrong inference, "It has specific existence, as it is an instance of a universal". Specific existence is not the negatum of the negation characterising the substratum of universal. In other words, the universal inheres in substance, attribute and action. In substance the specific existence concerning substance is not negated, in attribute the specific existence concerning attribute is not negated and in action the specific existence concerning action is not negated. So here the negation of specific existence implies the negation of the existence of substance, the negation of the existence of attribute and the negation of the existence of action. Thus the negatum of the negation of the specified or qualified is the substantive. In the perception of the non-existence of the holder of the stick, the negatum of the negation is the man holding the stick and not the conjunction of the stick with the man.[9] But still if it is contended that the specific is something separate and additional, then the reply is that there is Avyāpti in the inference, "It has existence, as it is a substance", because there is the negation of the duality of existence and quality-hood in substance.[10] (i. e, there is the negation of the sādhya as determined by the duality of quality-hood plus existence in substance, i. e-, there is the negation of existence-in-quality in substance).

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[5] Bhavānandī, Vol. I, p. 451.
[6] Gādādharī, Vol. I, p. 560.
[7] Dīdhiti and Jāgadīśī, Vol. I, p. 303.
[8] Jāgadīśī, Ibid.

It may be argued that the non-negatum of a negation means the negation of that negatum. And the character in which the sādhya has the negation of the negatum negated in the locus of the hetu should pervade the hetu. Now in the inference, "It has colour, as it has earth-hood", the negatum of the negation characterising earth is not perceived to be colour-hood and hence colour which has the negation of the negatum negated in earth pervades earth.[11]

This argument, according to Raghunātha, is false. For the perception of colour as not being the negatum of the negation characterising earth means that colour is not the determinant of the negatum negated in earth and does not mean that colour is the determinant of the negation of that negatum. Really, everywhere there is the uncontradicted perception that a colour is the negatum of the negation characterising earth and that no colour has the negation of that negatum. But if we do not allow this, then things would be negated through the essences which do not determine them.[12] In otherwords, when one colour is not perceived to be negated in earth that colour is not the determinant of the negatum negated in earth. But other colours may be negated in earth. If in a particular spot in earth red is not negated, then red is not the determinant of the negatum negated in that spot. But black or green or some other colour may be negated there. But if the non-negation of the red also means the non-negation of other colours, then anything may be negated through the esssence of something else. In other words, the perception of the non-negation of a colour in earth really means the perception of some colour in a particular place of earth. But the perception of some colour in a particular place does not mean the perception of other colours in that place. Other colours may be negated in that place. But inspite of this if it is insisted that colour is not negated in earth, then a further objection is that there arises Ativyāpti in the fallacious inference, "It has smoke as a knowable, as it has fire". For smoke is not perceived to be negated in some substrata of fire and, therefore, smoke as a knowable may be said to be never negated in any substratum of fire.[13] As a matter of fact, the definition of viśeṣa-vyāpti under discussion means that Vyāpti is the co-existence of the hetu with the sādhya which is determined by its determinant.[14] But if it is argued that the Atiyāpti in this fallacious inference (It has smoke as a knowable, as it has fire) does not arise, because smoke as a knowable is not the determinant of the co-existence of the hetu with the sādhya through cumbrousness (i. e, the adjunct "as a knowable" in reference to smoke is superfluous), then the reply is that there is also Avyāpti in the inference, "It has fire, as it has smoke", for fire-hood may be said to be also the non-determinant of the co-existence of the hetu with the sādhya, fire existing in the red-hot iron-bar in which smoke does not exist.[15] Further the jar could not be pervasive in the inference, "It is the jar, as it is the substratum of a conch-like-neck", because the substratumhood of the conch-like-neck is more cumbrous than jar-hood.[16] Hence the alleged Ativyāpti in the fallacious inference, "It has smoke as a knowable, as it has fire", stands, because the sādhya here is not smoke as such but smoke as a knowable.

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[9] Bhavānandī, Vol. I. p. 452.

[10] Jāgadīśī, Vol. I. p. 304.

[11] This is the view of Pragallaha Miśra according to Kṛṣṇadāsa, Bhavānda (Bhavānandi, Vol. I, p. 453) and Gadādhara (Gādādharī, Vol. I. p. 566). But Jagadīśa says that this is the view of Sārvabhauma, i.e, Vāsudeva Sārvabhauma (Jāgadīśī, p. 304). Here the view of Kṛṣṇadāsa seems to be correct, as he is the oldest commentator on the Dīdhiti. Or it might be that the views of Vāsudeva Sārvabhauma and Pragalbha Miśra were the same on this point.

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[12] Dīdhiti.

[13] Dīdhiti and Bhavānandī, Vol. I. p. 454.

[14] Gādādharī, Vol. I. p. 566.

[15] Dīdhiti and Bhavānandī, Vol. I. p. 455.

Thus the view considered above is wrong. Really in the definition the non-negatum of the negation characterising the locus of the hetu means the substratum-hood of the character which is the non-determinant of that negatum. And the real difference between the concluding definition of Vyāpti and this definition of viśeṣa-vyāpti is that in the former the hetu, as a generic attribute, has co-existence with the sādhya as a generic attribute, whereas in the latter the co-existence of two specified objects, as that of the hill-fire and the hill-smoke, is Vyāpti. According to some again the determinants of the negatum-negated in the locus of the hetu differ through the difference of absolute negation and reciprocal negation.[17]

The definition just now discussed is stated with the help of absolute negation. Gangeśa now states two definitions with the help of reciprocal negation, The first of these two definitions is that Vyāpti is the co-existence of the hetu with the sādhya whose substratum has not reciprocal non-existence with the locus of the hetu.[18] In other words, when the locus of the sādhya is not different from the locus of the hetu, the co-existence of the hetu with the sādhya is Vyāpti. The second definition is that the hetu is pervaded by the sādhya, when the sādhya, which is the locus of its specific instances, is not the negatum of the reciprocal non-existence co-existing with the hetu. In other words, when a specific instance of the sādhya (e. e. kitchen-fire, when the sādhya is fire) is not different from the locus of the hetu (say of the locus of the hetu "kitchen smoke") we have Vyāpti.[19] These two difinitions can be symbolically expressed thus: (Taking m to be the hetu and p to be the sādhya) (i) There is vyāpti of m with p, when the substratum of p is not different from the substratum of m; (ii) There is vyāpti of m with p, when p, which is the locus of p_1, p_2, p_3, etc, is not different from the locus of m (which is specific). In other words, when p_1 which is a specific instance of p is not different from the locus of m (here m is also specific) we have vyāpti of the specific. The second definition is lighter than the first, because in the first definition the substratum of the sādhya is not the negatum of the reciprocal negation co-existing with the hetu, and in the second, the sādhya is not the negatum of the reciprocal negation co-existing with the hetu.[20]

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[16] Dīdhiti and Jāgadīśī, Vol. I. p. 305.

[17] Dīdhiti.

[18] Tattva-cintāmaṇi.

[19] Tattva-cintāmaṇi. Vide also Māthurī, Tattvacintāmaṇi (Calcutta)

Now Raghunātha points out that the first of these two definitions does not apply to the inference in which the Sādhya exists in a number of substrata, because this or that substratum of the sādhya may have reciprocal non-existence with the locus of the hetu. Consider, for example, the inference, "It has fire,[21] as it has smoke." The hill, the substratum of the hetu 'smoke', has reciprocal negation with the kitchen which is also a substratum of the sādhya 'fire'. Similarly, kitchen-hood or yard-hood has reciprocal negation with the hill. In view of this Avyāpti, the proper meaning of this definition, according to Raghunātha, is that Vyāpti is the co-existence of the hetu with the sādhya whose substratum is determined by the nature in which it is not the determinant of the negatum which has reciprocal negation with the locus of the hetu. In the inference, "The hill has fire, as it has smoke",[22] the hill which is the substratum of fire has not reciprocal negation with the hill which is the substratum of smoke. Here

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Part II, p. 138. These two definitions are: (1) Yat-samānādhikaraṇa-anyonyābhāvapratiyogi yatvat-na bhavati tena samam tasya sāmānādhikaraṇyam; (2) svasamānādhikaraṇa-anyonyābhāva-apratiyogi-yatvatkatvam vā. Here in the second definition the word "Yat" means a specific instance of the sādhya. Vide Māthurī; Tattvacintāmaṇi Part II. p. 138: "Yatpadam svarūpataḥ sādhya-vyaktiparam."

20. Dīdhiti and Bhavānandī, Vol. I. p. 458.

21. Dīdhiti and Jāgadīśī, Vol. I. p. 308.

22. Dīdhiti.

the hill, the locus of the sādhya, is not different from the hill, the locus of the hetu 'smoke', as the hill is determined by a nature or essence which is of the hill. Hence there is vyāpti between the hill-smoke and the hill-fire.

But objection may be raised that there is Avyāpti in the inference, "The hill has the conjunction of fire, as it has smoke", because the different substrata of fire-conjunction have the nature of fire-conjunction and these substrata have reciprocal negation with each other.[23] As a reply Raghunātha says that when the sādhya is fire, or fire-conjunction or the substratum of fire-conjunction, the determinant of the sādhya is one undivided character and the substratum of the sādhya, as determined by this undivided character, has no reciprocal negation with the locus of the hetu.[24]

But it may be objected that in this way we get the conclusion that the hill has fire and not that the hill has the conjunction of fire.[25]

As a reply Raghunātha says that we must state definitely the nature which determines the sādhya and the nature which does not determine it. When the sādhya is fire-hood, we should point out its proper non-determinant. When the sādhya is fire, we should mark out the nature which does not determine it. When the sādhya is fire-conjunction, the particular nature of fire-conjunction should be stated. Lastly, when the sādhya is the substratum of fire-conjunction, the particular nature of the substratum should be definitely expressed.[26]

But Gangeśa himself explicates these three definitions.[27] The kitchen-fire has absolute negation on and reciprocal negation with the hill, the substratum of smoke and so the hill-smoke is not the concomitant of the kitchen-fire. But the hill-smoke has the co-existence of of the hill-fire, the kitchen smoke of kitchen-fire and so on. It cannot be argued from this that smoke is not the concomitant of fire. For all individual smokes being the concomitant of the respective individual fires, smoke is also a concomitant of fire and the fire related to smoke is the concomitant of smoke. Further there is Vyāpti between the smoke and the fire which come into existence and are destroyed simultaneously. Again the negation of conjunction in Karma (action) has its negatum non-co-existent with it. In other words, the first definition means that the sādhya should not be the negatum absolutely negated in the locus of the hetu. Now in the fallacious inference, "It has conjunction, as it has existence, "there is no Ativyāpti, because conjunction is negated in Karma which is a substratum of existence.

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[23] Bhavānandī, Vol. I. p. 458.

[24] Dīdhiti and Jāgadīśī, Vol. I. p. 308.

[25] Bhavānandī, Vol. I. p. 458-459.

[26] Ibid, p. 459.

[27] Tattvacintāmaṇi.

The definition constituted with the help of reciprocal negation (Vyāpti is the co-existence of the hetu with the sādhys whose substratum is not different from the locus of the hetu) applies also to an inference in which the sādhya is of partial extensity (avyāpya-vṛtti), because here the locus of the sādhya is apprehended to be non-different from the locus of the hetu.[28] Consider, for example, the inference "It has monkey-conjunction, as it is this tree." Here the objection may be raised that there is Avyāpti, because there is the reciprocal negation of the substratum of monkey-conjunction with the root of the tree, the root being not perceived to have monkey-conjunction. The reply to this objection is that the tree is non-different from the substratum of monkey-conjunction in the root and there is the clear knowledge of the non-difference of monkey-conjunction in the tree in respect of its root also.[29]

Raghunātha's comments in this connection are worth-noticing. The preposition, "the tree is not the substratum of monkey-conjunction in the root" implies negation in a specific part only verbally and not materially. For just as the man, whose tuft of hair on the head is cut off, is not killed but remains the same man, so the negation of monkey-conjunction in the root is nothing to be taken into consideration.[30]

But it may objected that if this explanation is accepted, then the substratum of conjunction is not different from quality, as conjunction is negated only in a part of the substratum (viz, in quality or action and not in substance) of existence. In other words, there is Ativyāpti in the fallacious inference, "It has conjunction, as it has existence", because conjunction is not negated in all-substrata of existence, but in some substratum.

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[28] Tattva-cintāmaṇi.

[29] Māthurī, Tattvacintāmaṇi, Part I (Calcutta) p. 144.

[30] Bhavānandī, Vol. I, p. 462.

The reply of Raghunātha to this objection is that there is the definite knowledge of the reciproeal negation of the substratum of conjunction with action (Karma) which is a locus of the hetu "existence" and so the alleged Ativyāpti does not stand.[31]

So, in the inference, "It has monkey-conjunction, as it is this tree", we have the knowledge that the tree is possessed of monkey-conjunction and the reciprocal negation of the substratum of monkey-conjunction with the root is no objection to the tree having it. In fact, in the knowledge of the negatum, as determined by its determinant, of an-absolute negation, there is not the knowledge of its absolute negation and there is the experience of the negation of its negation, but yet this definite knowledge of the negatum, as determinant, gives us an idea of its absolute negation. If, for example, we know the jar, as determined by jar hood, then we can understand its negation in a particular place. Similarly, if we know definitely the negatum, as determined by its determinant, of a reciprocal negation then we can understand the reciprocal negation of that negatum, though the knowledge of the negatum is not the knowledge of its reciprocal negation, but is the experience of the negation of its reciprocal negation.[32]

But it may be argued that the negation of the reciprocal negation of the substratum of conjunction is something additional to conjunction, because the idea of the negation of the substratum conjunction as characterising an infinite number of conjunctions is cumbrous.[33]

As a reply, it is said that there is the perception that the tree is non-different from the substratum of monkey-conjunction in respect of its top and so the negation of the reciprocal negation of the substratum of monkey-conjunction is to be taken in the top. Hence the knowledge of the negation of the reciprocal negation of the substratum of monkey-conjunction is not in respect of the root of the tree, as it is neither possible nor valid. Nor again there is the knowledge of the reciprocal negation of the substratum of monkey-conjunction as non-existing in the tree, as the reciprocal negation of the substratum of monkey-conjunction is perceived in the tree. Similarly, we have not the knowledge of the reciprocal negation of the reciprocal negation of monkey-conjunction in the tree, because the partial existence (in the tree) of the reciprocal negation of the substratum of monkey-conjunction and that of the reciprocal negation of the reciprocal negation of the substratum of monkey-conjunction are not contradictory. Again there is not the knowledge of the substratum of monkey-conjunction in the root, because the existence in the root, of monkey-conjunction, which is different what is different from the substratum of monkey-conjunction, is contradicted according to the principle that the reciprocal negation of what is different from the substratum of a character is that character itself. Similarly, the reciprocal negation of what is different from the jar is not additional to the jar, as the jar being posited in that way the idea of something additional is uncalled for. Really the reciprocal negation of that which is different from an object is not additional to that object, even as the negation of the negation of an object is not additional to that object.

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[31] Dīdhiti.

[32] Ibid.

[33] Bhabānandī, Vol. I, p. 464.

Thus two negata of absolute negation as also two negata of reciprocal negation have different substrata when the determinants of these negata are different. Now when we consider the inference, "It has monkey-conjunction, as it is this tree", the tree is known to have monkey-conjunction and the perception that the root of the tree has not monkey-conjunction being unrealised in any other way, the possibility of the opposition of the two negata of absolute negations is reduced here. Indeed, the belief in the negation of monkey-conjunction in the root of the tree is not derivable through the reciprocal negation of the substratum of monkey-conjunction. For the substratum-hood of conjunction logically does not bring its negation or difference and the subject of discourse here is not the substratum-hood of conjunction as the negatum of a reciprocal negation. Hence the belief that the tree is not the substratum of monkey-conjunction in the root means only the negation of an adventitious (and not an essential) attribute of the tree, even as the negation of the tuft of hair on the head is the negation of an adventitious (and not an essential) attribute of a man.

In the next place, the reciprocal negation of a negatum co-exists with the determinant of another object (the reciptocal negation of the jar, for instance, co-exists with cloth-hood) and opposition exists between the reciprocal negation of a thing and its determinant, i. e, between the reciprocal negation of the jar and jar-hood. So there cannot be any opposition of the substratum of conjunction to its difference in the same tree and the result is that the definitions stated with the help of reciprocal negation also apply to the inference, "It has monkey-conjunction, it is this tree". Moreover, there is no scope for the existence of two opposed negata of reciprocal negations in the same tree, because like the determinants of the opposed negata of absolute negations the determinants of two opposed negata of reciprocal negations are not perceived to exist in the same substratum.[34]

But it may be argued that the belief that it is not the substratum of conjunction has its origin in the knowledge of the negation of conjunction and hence the above opposition is not impossible.[35]

As a reply, it is said that the proposition that the substratum of the tuft of hair is destroyed means that only an adjunct of the substantive qualified by the possession of the tuft of hair is destroyed. But if the knowledge of the negation of the substratum of conjunction implies a reciprocal negation of the substantive, how can there be the apprehension of the absolute negation of the adjective? In no way the perception that it is a piece of silver can have the feature that it is a piece of shell. Nor again the knowledge of the reciprocal negation of the substratum of conjunction (in respect of the tree) has for its object the reciprocal negation of adjectives, for even in the top of the tree the negation of monkey-conjunction may be perceived. Indeed, reciprocal negation is also of partial extensity, otherwise why is it the practice to take the baked jar as not being dark and Caitra as not holder of the stick when the stick is destroyed? It cannot also be said that the reciprocal negation of the substratum of conjunction implies the negation of relationship or connection (samsargābhāva) of an adjective, for the negation of connection is not realised without the perception of the substratum of the negation (here the root of the tree, which is supposed to be the substratum of the negation of monkey-conjunction, is not perceived). Indeed the propsition that the ground is not the jar never implies the negation of the relationship of the jar i. e. the absolute negation of jar, on the ground; and if the non-perception of the substratum of the absolute negation would give the perception of the absolute negation, then there would have been the perception of the absolute negation of the jar in the jar itself.[36]

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[34] Didhiti.

[35] Bhavānandi, Vol. I, p. 468.

But it may be argued that the negation of an adjective or a quality can be realised even without the perception of the substratum of the negation, when the adjective or quality is known through adjective-hood i. e, known through its own determinant and here the jar being a substantive there cannot be the negation of the jar in the jar.[37] Similarly, the proposition, "The man is not the stick" does not bring in the sense of the negation of the connection of the stick, but the proposition "The man is not holder of the stick" brings that sense.[38]

As a reply, Raghunātha says that when the term "stick" acquires significance through "holder of the stick", which implies a qualified and not a quaiity, through the qualification of existence in the holder, how can it be the negatum of the negation of relationship? Here the stick is qualified by existence in the holder (and not by stick-hood) and no other qualification is called for. Here again the qualified is not to be taken as representing the quality, for in that case the propositions "Caitra is not a stick" and "The jar is not dark colour" would also imply the negation of relationships of the stick and the dark colour.[39]

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[36] Dīdhiti.

[37] Kṛṣṇadāsa. Anumāna-dīdhiti-prasāriṇī, p. 209.

[38] Bhavānandī, Vol. I, p. 470.

Thus in the perception of the negation of connection or relationship (samsargābhāva), the substratum of the negation must be known.[40] But when we lay down the proposition, "Caitra does not cook", we really mean the difference of Caitra from the cook and not the negation of relationship of the cook with Caitra. As a matter of fact, the proposition "Caitra does not cook" or "It is not Maitra's" does not require that the substratum of the negation should be known, because the construction of these propositions make their inner meaning clear. Similarly, the proposition, "the jar is not now black" means that the jar is now different from the existence specified by blackness, for when the jar is red, it is not the substratum of black. Really red is contrary or opposed to and not simply separate or existentially distinct from black.[41]

Thus the definitions stated with the help of reciprocal negation apply to the inference, "It has monkey-conjunction, as it is this tree." Now Gangeśa says that though here the monkey has not conjunction with every part of the tree, there is no harm. For the knowledge of Vyāpti here comes through the relation of conjunction or conjunctionhood and the monkey-conjunction really stands for conjunction.[42]

But it may be argued that the tree has conjunction pervading it and so the definitions stated with the help of reciprocal negation are useless.

As a reply it is said that the definition stated with the help of negations apply to all cases of Vpāpti and so they have cogency here also.

It may again be argued that in the substratum of smoke fire and the lake do not exist and the substratum of smoke is not both the substratum of fire and the lake and hence fire and the substratum of fire, as determined by collective extensity, have their absolute and reciprocal negations respectively in the substratum of smoke and thus the definitions stated with the help of absolute and reciprocal negations are worthless.

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[39] Dīdhiti.

[40] Bhavānandī, Vol. I, p. 472.

[41] Dīdhiti and Bhavānandī, Vol. I, p. 472.

[42] Māthurī, Tattvacintāmaṇi, Part II. p. 147-148.

The reply to this argument is that such negations are not perceived and even if such negations are possible, fire or the substratum of fire is not the negatum of the negation of both fire and the lake or the negation of both the substratum of fire and the lake.[43] Really the question is whether duality determines the negatum of negation or not, for the negations of the jar and the cloth, which co-exist with duality, are easy to apprehend. The answer to this question is that the perception of the negation of the jar is different from the perception that the jar and the cloth do not exist. But if the difference of the negation of the jar and the cloth from the negation of the jar is not realised without the realisation of the difference from the substrata of these negations then duality determines the negation.[44]

But it may be argued that the difference between the negations of two objects (the jar and the cloth) and the negations of one object is realised when the negata of the negations of two objects appear to be qualified by duality.[45]

The reply to this argument is that even when it is asserted verbally that the jar and the cloth do not exist on the ground, there is the doubt whether the jar exists on the ground or not. Really the perception of dual negation arises when an entity (e.g, the jar) is negated in one place and another entity (e.g., the cloth) is negated in another place.[46] It cannot be said that the perception that two entities like the jar and the cloth do not exist has for its object the negatum (of these negations) which is the substratum of duality, or which is determined by the essence co-existent with duality. For in the substratum of the jar and the cloth, which are the substratum of duality, there is not the perception that the jar and the cloth do not exist and even without the perception of the jar and the cloth as being determined by the essence co-existent with duality, there can be the perception of the negations of the jar and the cloth. It cannot again be said that the perception that the jar and the cloth do not exist has for its object the negation whose negatum is determined by either jar-hood or cloth-hood, for the perception that the jar and the cloth do not exist is derived even without this type of alternating perception. Nor again the perception that the jar and the cloth do not exist has for its object the general negation of the duality existing in the jar and the cloth in the relation of the conjunction of the jar and the cloth which are the substrata of duality. For the two substrata of this duality are the negata of the negation of these and even without the perception of duality as existing in the jar and the cloth, there can be the verbal realisation that the jar and the cloth do not exist. Thus the perception of the negations of the jar and the cloth does not imply the negation of one as determined by the other, even as water and earth, which are opposed to each other, are perceived to be two negations and not that water, as determined by earth, or vice versa, is perceived to be negated.[47]

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[43] Pattvacintāmaṇi.

[44] Dīdhiti and Jāgadīśī, Vol. I. p. 319.

[45] Jāgadīśī, Ibid,

[46] Dīdhiti.

But even if duality determines the negatum of the negations of the jar and the cloth, the sādhya is not the negatum of the negation characterising the locus of the hetu and the substratum of the sādhya has not reciprocal non-existence with the substratum of the hetu.[48] Indeed, there may be the negation of both fire and the lake, but this duality of fire and the lake does neither determine the sādhya nor its substratum, when we consider the inference, "It has fire, as it has smoke." Hence the definitions of Viśeṣa-Vyāpti stated with the help of absolute and reciprocal negations are not defective.

Gangeśa now gives a fourth definition of Viśeṣa-Vyāpti. Vyāpti is the unconditional co-existence of the hetu with the sādhya. And this is the co-existence of the hetu with the sādhya which co-exists with all absolute negations whose negata are determined by the determiants of the negata of all absolute negations co-present with the

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47. Dīdhiti.
48. Bhavānandi, Vol. I, p. 478.

hetu.[49] If p is the sādhya and m is the hetu, then vyāpti is the co-existence of m with p which co-exists with all absolute negations whose negata are determined by the essences of the objects absent in the locus of m.. Consider for example, the inference, "The hill is fiery, as it has smoke." The kitchen-fire, the yard-fire and the field-fire and negated on the hill and the hill-fire exists on the hill. Here the hill-fire co-exists with negations of the kitchen-fire etc, and these negations also hold of the hill, the locus of the hetu 'smoke'. Or the negation of water co-exists with smoke and fire also co-exists with the negation of water. Here the co-existence of smoke with fire is Vyāpti.

Raghunātha clarifies the implications of this definition. The co-existence of the hetu with the sādhya has reference to all the essences which determine the negatum of the absolute negations co-present with the sādhya which is determined by its essence and also determine the negatum of the absolute negations co-present with the hetu.[50]

It may be argued that the definition leads to Ativyāpti. For the definition applies to the fallacious inference, "The hill has smoke, as it has fire," as on the hill there is negation of water and the sādhya also co-exists with the negation of water. This objection does not stand, because the definition implies that even if in one case the sādhya does not co-exist with the negation whose negatum is negated in the locus of hetu, then there is not Ativyāpti. And in the wrong inference, "It has smoke, as it has fire", smoke produced or emitted by wet fuel is negated on the hill, the locus of fire, and smoke is not co-present with the negation of smoke produced by wet fuel.[51] Again it may be argued that there is Avyāpti in the inference, "It has colour, as it has earth-hood," because some particulat colour does not co-exist with all the negations whose negata are

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49. Tattvacintāmaṇi. Athavā anaupādhikatvam vyāptiḥ tacca yāvat-svasamānādhikaraṇa-atyantābhāva-pratiyogitāvaccheda-kāvacchinnam yat tat pratiyogika-atyantābhāva-samānādhikaraṇam yat tena samam sāmānādhikaraṇyam.

50. Dīdhiti. Vide also Māthurī, Tattvacintāmaṇi, Part II. p. 154 155.

51. Māthurī, Tattvacintāmani, Part, II, p. 153.

determined by the determinant of the negata-negated in the locus of the hetu.

This argument also is baseless, because the negatum negated in the locus of the hetu should have its negation co-existent with the sādhya which is determined by its essence. Indeed, the real meaning of the definition is that the word "all" qualifies the negata negated in the locus of the hetu and also the negata with whose negation the sādhya is co-existent and any objection by fixing the adjunct "all" to one of these or by transferring it to the negations with which the sādhya is co-existent is groundless. Now Gangeśa points out that this definition is free from the charge that the object determined by the determinant of the negatum negated in the locus of the hetu has a condition or limiting adjunct. Consider, for instance, the wrong inference, "The hill has smoke, as it has fire." Smoke emitted by wet fuel is absolutely negated on the hill and the sādhya 'smoke' does not co-exist with the negation of smoke given off by wet-fuel. Here the limiting adjunct (upādhi) pervades the sādhya. From this it follows that the unconditional co-existence of the hetu with the sādhya means the co-existence of the hetu with the sādhya which has the exception of all those which have exception in the hetu[52].

There is another important point to be considered in this connection. The negations which co-exist with the hetu as well as as with the sādhya never mean any kind of affirmation. And for this thete is not Avyāpti in the inference, "It is water, as it is the substratum of oiliness", though water is not co-existent with all colours which are the negations of the negatum determined by the negations of the generic colour (i. e, which are the negation of the negation of the generic colour), which (the negation of the generic colour) again determines the negatum whose negation co-exists with the substratum of oiliness, Similarly, there is not Ativyāpti in the fallacious inference, "Here is the destruction of the jar, as here is destruction", because the negation, which is additional to the non-existence of the destruction of the jar or of the knowledge having the destruction of the jar as its feature, is not co-existent with the destruction of the jar.[53] This refutation of Ativyāpti has reference to the view of the Old School according to which the negation of the negation of an object is the object. It may be alleged that there is Ativyāpti in the fallacious inference "Here is the destruction of the jar, as here is destruction" because the absoulte negation of the destruction of the jar, which exists in the absolute negation of the jar, is equivalent to the absolute negation of the jar and this absolute negation of the jar co-exists with the sādhya "the destruction of the jar". This charge of Ativyāpti is refuted hy holding the view that the negation of the destruction of the jar posits the jar which is an affirmation.[54]

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[52] Dīdhiti.

Gangeśa also gives another interpretation of the unconditional co-existence of the hetu with the sādhya. Unconditional co-existence is the state in which the general non-existence of the pervasive absolute negation, whose negatum is determined by the determinant of the pervasive sādhya, co-exists with the hetu.[55] When we get an inference in which the sādhya is universally present, the negation of ether (which determines the pervasive sādhya) has general negation in the locus of the hetu.[56] This definition does not apply to an inference in which the hetu has s limiting adjunct, because the limiting adjunct not pervading the hetu, the hetu co-exists with the negation of the limiting adjunct which is not the negatum of the negation charactersing the locus of the sādhya.[57]

Raghunātha mentions anothr explanation of Gangeśa's interpretation of the unconditional co-existence of the hetu with the sādhya. It is the state in which every negation of all the negations, whose negata are determined by the determinant of the sādhya, pervades the locus of the hetu. It may be argued that here double negation can be avoided, if it is held that uncondifional co-existence is the state in which the entire locus of the hetu has all the non-determinants of the negata which, as determined by the determinant of the sādhya, are negated. But this argument is wrong, for wet-fuel,

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54. Jāgadiśī, Vol. I. p. 327.
55. Didhiti.
56. Bhavānandī, Vol. I, p. 393.
57. Tattvacintāmaṇi.

which is a non-determinant of the negatum of the negation of fire, as determined by fire-hood, should not exist in the locus of the hetu 'smoke'. Again it may be argued that unconditional co-existence is the pervasive co-existenc of the. hetu with all the objects which are not negated in the locus of the sādhya. This argument is also not sound, because even the object which pervades the sādhya, can, in some other from (i. e, as duality, as esisting in a part of the sādhya and so on), be negated in the locus of the sādhya.

Gangeśa now gives a fifth definition of Viśeṣa-Vyāpti. Vyāpti is the co-existence of the hetu, which is the substratum of the nature which determines its co-existence with the sādhya, with the sādhya.[58] If m is the hetu and p the sādhya, then vyāpti of m with p is the co-existence of m with p, when m-ness is the determinant of the co-existence of m with p, In other words, when the co-existence of the hetu with the sādhya is determined by the determining essence of the hetu, we have Vyāpti. Smoke, as determined by smoke-hood, co-exists with fire and so any kind of smoke co-exists with fire. On the contrary, fire, as determined by fire-hood, does not co-exist with smoke, because fire exists in the red-hot iron-ball in which there is no smoke.

Objection may be raised that in the inference, "it has quality, as it has existence other than that of substance and action", the conclusion will not follow according to this definition, for existence, which is the locus of the co-existence of quality and specific existence, inheres in action.[59]

As a reply Gangeśa modified the definition as follows:— The hetu is pervaded by the sādhya when the very nature of the hetu is determined by the determinant of the co-existence of the hetu and the sādhya. Thus the conclusion, i. e, the existence of the sādhya in the Pakṣa, is determined by the existence of the hetu, which is specified by co-existence with the sādhya, in the Pakṣa, and in this sense the conclusion can be derived in the above inference, because action is not the substratum of specific existence co-existing with quality. Further when there is a doubt as to whether there is light or smoke on the hill, there is no certainty that the hill is possessed of smoke which co-exists with fire. If this is ascertained, no such doubt arises.[60]

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[58] Māthuri, Tattvacintāmaṇi, Part, II. p. 159.

[59] Dīdhiti and Bhavānandī, Vol. I. p. 498.

It should be remembered in this connection that the determinanthood of the co-existence of the hetu and the sādhya, does not mean non-incomplete existence. In other words, the co-existence of the hetu as such with the sādhya does not mean that the hetu exists in the non-incomplete, i. e, the complete substratum of the sādhya, as in that case there is Ativyāpti in the fallacious inference, "It has fire, as it is knowable". Nor does the co-existence of the hetu as such with the sādhya mean the existence of the hetu in every substratum of the sādhya, as in that case there is Avyāpti in the inference, "It has fire, as it has smoke", smoke not-existing in every substratum of fire, But this co-existence of the hetu as such and the sādhya simply means that the hetu exists in the place which is not the non-substratum of the sādhya. But there is not avyāpti in the inference, "It has fire, as it has smoke", though smoke exists in its parts in the relation of inherence, but fire is absent there. In other words, smoke inheres in its parts and is negated in them in the relation of conjunction in which it exists in the Pakṣa Hence the presence of smoke in its parts in the relation of inherence and the absence of fire there is no bar to the Vyāpti between smoke and fire. Nor there is ativyāpti in a fallacious inference, though the hetu and the sādhya co-exist in a particular locus, for in some other locus there may be the hetu, but not the sādhya.

Thus the definition implies that the hetu exists in the loci which are not the non-loci of the sādhya. Thus there is no Ativyāpti in the fallacious inference, "It has smoke, as it has fire", though fire does not exist in water in which smoke also is negated[61] (here the hetu exists in the electric blub, but the sādhya is absent there and hence there is no ativyāpti). Really the hetu is to be determined by the essence which precludes its existence in the place in which the sādhya and the hetu do not co-exist. And the hetu, as determined by this essence, i. e, as determined by its essential nature, does not exist in the substratum which has not its co-existence with the sādhya. Thus when we consider the fallacious inference, "It has quality, as it has existence", there is not Ativyāpti, because action, which is not the locus of the co-existence of the sādhya and the hetu, has the inherence of the hetu "existence" as such. Again action is not the substratum of specific existence other than that of action and so the question of Avyāpti is absurd here. Similarly, in the inference "All things are namable, as they are knowable", there is universal co-existence of the hetu as such with the sādhya.[62]

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[60] Didhiti.

[61] Bhavānandī, Vol. I, p. 500-501.

It may be argued that here Vyāpti exists between an existent and a namable and this Vyāpti is derived through knowability.[63]

But this argument is wrong, as Vyāpti cannot be derived through a nature which itself has not Vyāpti. The Vyāpti between smoke and fire cannot be ascertained through substance-hood, i. e. the fact of smoke being a substance is no guarantee for its being an invariable concomitant of fire.[64]

Now in Vyāpti the object, which is negated, in the relation determining the sādhya, in the locus of the sādhya should also be negated in the locus of the hetu in the relation determining the hetu. Here of course the negation bears self-relation to its substratum.[65] In the inference, "The hill has fire, as it has smoke", water is negated in the relation of conjunction in the locus of fire and also negated in the locus of the smoke in that relation (Here the relation of conjunction determines both the sādhya and the hetu). Hence the co-existence of smoke as smoke with fire is Vyāpti. But when we get a fallacious inference like, "It has fire, as it has blue smoke", blueness is not the determinant of smoke as

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62. Dīdhiti.
63. This is the view of Pakṣadhara Miśra.
64. Dīdhiti.
65. Bhavānandī, Vol. I, p. 504.

such and hence the co-existence of blue smoke and fire is not Vyāpti.

It may be held that the determinant of the co-existence of the hetu and the sādhya is a type of self-relation (svarūpa-sambhandha-viśeṣa) i. e., the hetu being determined by its own essence, and the sādhya, as such, co-exist, and hence the view that the non-existence of the hetu in the substratum in which the sādhya does not exist is this determinant is rather cumbrous and may be avoided.[66]

But the objection may be raised that in the fallacious inference, "It has quality, as it has existence',, existence, which is co-present with quality may be taken, for the sake of simplicity, to be non-inhering in any other substratum and thus has a determinant which is a type of self-relation.[67]

The reply to this objection is that in the substrata of affirmation and negation which are contradictories, the same object cannot exist in the same relation, but can exist through different determinants. And in a fallacious inference, the determinant of the hetu, as having a limiting condition, is the determinant of its co-existence with the sādhya and the hetu, as having no limiting adjunct, co-exists with the negation of the sādhya.[68] Thus it is a contradiction to suppose that existence co-exists with both the negation of quality and the affirmation of quality. But when we get an inference in which the sādhya is of partial extensity (in the locus of the hetu) there is the negation as well as the affirmation of the sādhya in the locus of the hetu. There is no contradiction in the existence as well as non-existence of monkey-conjunction in the tree. Further fire which exists in the relation of conjunction on the hill, kitchen, etc, is negated in the relation of inherence in these substrata. Indeed the hetu 'smoke' does co-exist with the sādhya, though smoke exists in the relation of conjunction in the locus of fire and fire or smoke is negated in that relation in the part of smoke; and the knowledge of Vyāpti between the hetu and the sādhya is contradicted, when the sādhya and its negation, being determined by the same determinant, exist in the locus of the hetu. There is also exception in the case of the knowledge of Vyāpti, if the essence of the heru does not determine the co-existence of the hetu and the sādhya. This knowledge of nonco-existence directly contradicts Vyāpti and the knowledge of this exception indirectly. It is for this reason that when blue smoke-hood determines the hetu, the inference is fallacious, the adjective 'blue' being superfluous and therefore useless (i. e., the inference, "It has fire, as it has blue smoke", is fallacious and this fallacy is called unproved concomitance on account of a superfluous adjective).

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[66] This is also the view of Pakṣadhara Miśra, Raghunātha explains this view in some detail and then criticises it.

[67] Bhavānandī, Vol. I, p. 505.

[68] Jāgadīśī, Vol. I, p. 337.

Thus the hetu as such co-exists with the sādhya as such. The hetu 'jar', for example, as determined by jar-hood, and not as determined by the possession of a conch-like-neck, co-exists with its sādhya, for the sake of simplicity. Similarly, smoke, as determined by smoke-hood, co-exists with fire. But blue smoke is not the concomitant of fire, the quality blue being superfluous. In this admission of the futulity of the superfluous, the definition stated with the help of negations and that stated with the help of affirmation (i.e. the co-existence of the hetu as such and the sādhya as such is Vyāpti) are equal.

Thus the determinant of the hetu 'jar' is jar-hood and not its bodily shape. Similarly, in the inference, "It is a substance, as it has colour", the determinant of the hetu is colour-hood and not various colours. In other words, there should be one determining essence of the hetu and one for the sādhya and the co-existence of the hetu and the sādhya so determined is Vyāpti.

But this view (of Pakṣadhara) is not without its difficulty. For though there is opposition between the co-existence of one with another and the negation of such co-existence, yet an object and its negation may co-exist. Consider, for instance, the fallacious inference, "It has quality, as it has existence." Quality and its negation, i.e., action, co-exist with the hetu 'existence'. But if we concentrate on the fact of the co-existence of the hetu and the sādhya as being determined by one determinant in each case and assert that such co-existence is Vyāpti, then there is Ativyāpti in the fallacious inference afore mentioned, existence as such and quality as such having the same substratum. Further in the inference in which substance is the sādhya, the hetu can be a specific colour and hence colour-hood is not necessarily the determinant of the hetu in the inference, "It is a substance, as it has colour."

Still there is another interpretation of Gangeśa's definition (of Viśeṣa-Vyāpti) that when it is the very nature of the hetu to co-exist with the sādhya, there is Vyāpti. It is held that when the sādhya exists in the locus qualified by the essence of the hetu, we have vyāpti. According to this interpretation Gangeśa's view that smoke-hood determines smoke when it is related to fire, is to be taken to imply that the substratum of smoke is related to the substratum of fire and that the substratum-hood of smoke determines the substratum of smoke. Here the determinant of the co-existence of the hetu and the sādhya is not a type of self-relation. For in the inference, "It has monkey-conjunction as it is this tree, the sādhya is monkey-conjunction on the top of the tree and the conjunction in the root of the tree is opposed to it and so there cannot be the co-existence of the hetu as such and the sādhya as such in this case. Similarly, the sādhya "that jar" cannot exist in the substratum of the destruction of that jar, for jar that is destroyed existed in the past and no longer exists. Again when the hetu and the sādhya do not occupy the same space or time in all cases, the hetu as such and the sādhya as such cannot be said to co-exist. In the next place, in the inference, "It has this colour, as it has this taste," each colour or each taste exists in the locus of each and so there is not only one determinant of their co-existence.

Just as the determinant of the co-existence of the hetu and the sādhya is not a type of self-relation, so also this determinant is not non-incomplete existence, because there will be avyāpti in an inference in which the sādhya exists in a part of the locus of the hetu. But this determinant is existence (in a non-superfluous substratum. The substratum of smoke, for example, has always the substratum-hood of fire and here the determinant of the co-existence of the hetu and the sādhya is the substratum-hood of smoke. Really existence in a non-superfluous substratum means that the determining essence of the substratum of the hetu determines the existence of the sādhya in the locus of the hetu in every case. Thus when we get a Kevalānvayī inference, the substratum of the hetu is the substratum of the sādhya in all places and at all times.

Thus according to Gangeśa the existence of the sādhya in the locus of the hetu is determined by the very essence of the hetu in a case of viśeṣa-vyāpti. But when the hetu has a limiting adjunct, the hetu, as determined by its own essence, is not the determinant of its co-existence with the sādhya- In the (fallacious) inference, "It has smoke, as it has fire supported by wet fuel", fire-hood is not the the determinant of the hetu. But here the hetu as determined by the limiting adjunct co-exists with the sādhya. Fire supported by wet fuel co-exists with smoke.

It must be remembered in this connection that in a fallacious inference the determinant of the co-existence of the hetu and the sādhya may not be a limiting adjunct. In the fallacious inference, "It has oiliness, as it has touch", cold is the determinant of the co-existence of oiliness and touch and cold is not here a limiting adjunct of the hetu. Similarly, in the fallacious inference, "It has non-oiliness, as it has touch" the determinant of the co-existence of the hetu and the sādhya, is touch other than cold and this is also not a limiting adjunct of the hetu in this case.[69]

Thus the limiting adjunct (upādhi) is the specific quality attached to the hetu and not the determining essence of the hetu and the hetu and sādhya co-exist (in a fallacious inference) when the hetu is taken qualified by the limiting adjunct.[70] The Vyāpti in such cases (i. e., when the hetu has a limiting adjunct) is in the sense of existence in a non-partial substratum. When we make the wrong inference, "It has smoke, as it has fire supported by wet-fuel", smoke exists in the non-partial, i. e, in all the substrata of the fire supported by wet-fuel and vice versa. But in the correct inference; "It has fire. as it has smoke", fire exists in all the substrata of smoke,

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[69] Dīdhiti and Bhavānandī, Vol. I, p. 518.

[70] Gangeśa: Tattvacintāmani, Gangeśa here follows the view of Prabhākara. The limiting adjunct (upādhi) does not pervade the hetu, as it is not its connotation. It may be mentioned here that three kinds of limiting adjunct are mentioned in the Tarkāmṛta of Jagadiśa: (1) The limiting adjunct does not pervade the hetu, but pervades the sādhya which is not determined by any further property, Fire supported by wet-fuel pervades smoke, but not fire. (2) The limiting adjunct may pervade the sādhya which is determined by the

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essence of the pakṣa, though it does not pervade the hetu. In the inference, "Air is perceptible, as it has the substratum-hood of touch which is perceived," the substratum-hood of generated colour is the limiting adjunct of the hetu and pervades the sādhya which is determined by external substance-hood, the character of the Pakṣa 'air'. (3) The limiting adjunct without pervading the hetu pervades the sādhya which is determined by the character of the hetu. In the inference "Destruction is transitory, as it is produced," transitoriness as determined by the character of the hetu, i.e. the character of being produced is pervaded by the upādhi "bhāvatva" (affirmation or the state of being a positive entity). Or to take an instance from the "pramāṇa-candrikā" of the Mādhvas: "The child in the womb will be of dark complexion, being the son of Maitrī." Here the sādhya as determined by the character of being the son of Maitri is pervaned by the Upādhi "The fact of being due to eating spinach" (śāka-pākajatvam).

This classification of upādhis (limiting adjunct attached to the probans or the hetu) may be compared with the Mādhva classification. In the Pramāṇa-candrikā (p. 153-p. 154. Mādhva Logic by Dr. S.K. Maitra) it is said:— Upādhi-ścaturvidhaḥ: (1) Kevala-sādhya Vyāpaka, (2) Pakṣa-dharmā-vacchinna-Sādhya-Vyāpaka, (3) Sādhanadharmā-Vacchinna-Sādhya-Vyāpaka and (4) Udāsīna dharmā-Vacchinna-Sādhya-Vyāpaka. Let us quote here Dr. S.K. Maitra's English translation of these four: "Upādhis may be of four kinds. In the first place, an upādhi may be an extraneosus conditions pervading the probandum without qualification or restriction. Secondly, an upādhi may pervade the probandum as qualified by a property of the subject of inference. Thirdly an upādhi may be a condition pervading the probandum as qualified by a property of the ground or sādhana. Lastly, an upādhi may be a condition pervading the probandum as qualified by a neutral property (i.e., a property which is neither a property of the subject nor a property of the ground of inference). Mādhva Logic, p. 92.

Here the first kind of upādhi (of the Mādhvas) is the same as the first kind of upādhi mentioned in the tarkāmṛta of Jagadīśa. In the inference "The hill is smoky, as it is fiery" the upādhi is the conjunction of wet-fuel (ādra-indhana-saṅyoga) as points out the author of pramāṇacandrikā. The second kind of but smoke does not exist in every substratum of fire, as for example, in the red-hot iron-ball. So in this correct inference the determinant of the co-existence of the hetu with the sādhya is existence in a non-additional substratum (i.e., the hetu should not exist in the place where the sādhya does not exist, but the hetu may not exist in a particular locus of the sādhya). On the contrary, in a fallacious inference in which the hetu has a limiting adjunct, the determinant of the co-existence of the hetu with the sādhya is existence in the undivided or, complete substratum (i.e., the hetu exists in all the substrata of the sādhya). In fact, all the substrata, which have the sādhya co-existent with the hetu, have the hetu with the limiting adjunct. In other words, pervasiveness (Vyāpakatva) is the substratum-hood of the hetu which is qualified by the sādhya and Vyāpti in such cases is between the hetu as qualified by the sādhya and the sādhya. Now there is not ativyāpti in the fallacious inference, "It is a substance, as it has existence," though the jar, which is a substance which again is one of the three (substance, quality and action) having existence (the hetu), co-exists with the hetu "existence." Nor there is Avyāpti in the inference, "It is a substance, as it has limited existence," though existence, qualified by substance-hood, does not pervade the substratum of touch.

Thus the qualification or the limiting adjunct in the hetu is that which is not the determining essence of the hetu. But this limiting

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upādhi of the Mādhvas also concurs with the second of Jagadīśa. In this case the upādhi pervades the sādhya or the probandum which is determined by the character of the Pakṣa or the subject of inference. The third instance of upādhi is also the same in both. Here the upādhi pervades the sādhya which is determined by the character of the hetu or the probans. But the fourth kind of upādhi mentioned in the prāmaṇa-candrikā is not found in the Tarkāmṛta of Jagadīśa. Here the upādhi pervades the sādhya which is determined by a character which is netither a property of the subject of inference nor a property of the probans, i.e, by a neutral character. Consider the inference "The colour of the atom is perceived (seen), as it is knowable." Here the sādhya "perception" as determined by the character of revealing an external substance is pervaded by the upādhi "the substratum-hood of generated colour" (udbhūta-rūpavattvam). It is obvious that in this case the property of revealing an external substance is neither a property of the Pakṣa nor of the hetu.

adjunct, qualifying the hetu, the sādhya co-exists with it (in a fallacious inference like, it has smoke, as it has fire supported by wet-fuel). Here the hetu can be said to be qualified by the sādhya and the sādhya does not exist in the locus of the hetu, which has the negation of the sādhya. Thus in the inference "It is a substance, as it has existence", there is not Avyāpti in the substratum other than that of quality and action, though existence is taken to be indivisible. There is also not Avyāpti in the substratum other than that of quality in the inference, "It is a substance, as it has existence other than that of action.[71]

Now Gangeśa says that the limiting adjunct (upādhi) is different from the essence of the hetu. Here Raghunātha points out that the limiting adjunct does not determine the determinant of the hetu and if this meaning is not accepted, there is Avyāpti. Consider, for example, the inference, "It is curd or the produced curd, as it has the curd-atom." Here curd-hood or produced curd-hood is not the determining essence of the hetu and is a limiting adjunct. But if it is not taken to be different from the essence of the hetu, then there is Avyāpti.

The limiting adjunct, which is different from the essence of the hetu, means, according to some, the determinant which determines the co-existence of the hetu with the sādhya without determining the essence of the hetu.

But objection may be raised that in the inference, "It is a substance, as it has existence other than that of quality and section" specific existence other than that of quality and action is not determined by existence pertaining to the negation of substance and is therefore, a limiting adjunct to the hetu.[72]

As a reply it is said that the non-determinant of the determining essence of the hetu has reference to the existence, in the locus of the negation of the sādhya, of the hetu, when it is determined by its own essence, because the hetu as such without the adjunct exists in the locus of the negation of the sādhya, (i. e., when we take the wrong inference", "It has smoke, as it has fire supported by wet fuel',, fire as fire exists in the locus of the negation of smoke).[73] Now when we consider the inference, "It is a substance, as it has existence other than that of quality and action", there is the inherence of existence as such in quality etc, and not the inherence of specific existence, just as a man having conjunction with the ground and having the negation of a stick is not the man on the ground with the stick.[74].

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[71] Dīdhiti.

[72] Bhavānandī, Vol. I. p. 526.

Thus the non-determinant of the determining essence of the hetu refers to the existence of the hetu, as determined by its own essence, in the locus of the non-existence of the sādhya. And for this the view that in the (wrong) inference, "It has smoke, as it is known", the co-existence of the hetu and the sādhya is to be determined by known-ness is absurd. Similarly, in the inference, "It has quality, as it has the generic attribute other than that of quality and action", the fact of difference from quality and action is not a limiting adjunct.

Now the co-existence of the hetu with the sādhya when the hetu has a limiting adjunct, implies, according the view under consideration, that the hetu, as determined by an adjunct which does not determine its co-existenee with the sādhya, is pervaded by the sādhya which is determined by its own essence. In other words, as the unconditional hetu (i. e., the hetu without the limiting adjunct) can have a substratum (in the inference, for example "It has smoke, as if has fire) which has the negation of the sādhya, so the hetu, as qualified by the adjunct, has the sādhya in its locus.

Thus the explanation of limiting adjunct (upādhi), according to Gangeśa, is that when the hetu has a quality, which is not its essence, but which effects its co-existence with the sādhya, we have a limiting adjunct. Now according to Sārvabhauma[75] this (limiting) quality of hetu is that which co-exists with it. This quality determines the hetu by being co-existent with it and the sādhya exists in every substratum of the hetu as determined by this quality and in no other substratum than this, though in the inference, "It is perceptible, as it has generated colour or as it as a big perishable substance", the sādhya exists in the locus of the hetu partially and also exists in the substratum in which the hetu is negated. In other words, the co-existence of the hetu with the sādhya is non-incomplete, i. e, complete and non-superfluous with reference to the same, i. e., the co-existence of the hetu with the sādhya.

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[73] Dīdhiti.

[74] Bhavānandī, Vol. I. p. 526.

[75] Bhavānandī, Vol. I. p. 530.

But it may be argued that there is Ativyāpti in the fallacious inference, "It is a substance, as it has existence", because substance-hood co-exists with non-action, and also with earth-hood.[76]

As a reply, it is said that the co-existence of substance-hood, having existence, with non-action, having existence, is the existence of the sādhya in a substratum additional to that of the hetu, for quality and substance do not co-exist. Again the co-existence of substance, having existence, with earth having existence, is not the existence of the sādhya in every substratum of the hetu, for water has the co-existence of substance and existence, but not the co-existence of earth and substance.

Sārvabhauma also thinks that the limiting adjunct does not determine the essence of the hetu and it is not enough if it is simply said that the limiting adjunct is different from the determinant of the hetu. For in the inference, "It has fire, as it has smoke", substanced-hood is different from smoke-hood and yet is not a limiting adjunct of smoke, smoke being a substance. Hence the limiting adjunct is a quality of the hetu, but does not determine the determining essence of the hetu. In other words, it is an accidental attribute of the hetu, but not its connotation.

Objection may be raised that in all cases in which the hetu has a limiting adjunct, all such adjuncts do not determine the co-cxistence of the hetu and the sādhya. In the inference, for example, "The jar is perceived, as it is finite", the substratum-hood of generated colour is a limiting adjunct of the hetu but it does not determine the co-existence of the hetu and the s dhya.[77] As a reply Gangeśa says that when the hetu is not pervaded, certainly the sādhya, as determined by the hetu, is pervasive.[78] Here the non-pervaded-ness of the hetu, means, according to Raghunātha, the negatum of the pervasive negation of the hetu which has the negation of the sādhya. This kind of hetu (i. e. the hetu having the negation of the sādhya) has non-co-existence with the sādhya. Raghunātha further points out that the charge of Ativyāpti can be brought forward in connection with the wrong inference, "It is seen, as it has substance-hood", for the jar is a substance which is seen and, therefore, Gangeśa says that the sādhya, as determined by the hetu, has pervasiveness. Similarly, there can be the charge of Avyāpti in tne vegetable and the chemically preduced, in the inference, "It is black, as it is not the product of the sun", if the sādhya as such is to pervade the hetu. This Avyāpti is obviated also by the view that the sādhya, as determined by the hetu, has pervasiveness.

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[76] Bhavānandi, Vol. I. p. 532.

[77] Didhiti.

Again it may be argued that the limiting adjunct (attached to the hetu) shows that the failure of the co-existence of the hetu and the sādhya is not produced without the difference of the determinants of the co-existence of the hetu and the sādhya. But the substratum-hood of generated colour cannot show this and hence is not a limiting adjunct.[79]

As a reply Gangeśa says that in a fallacious inference, i.e., when some locus of the hetu does not contain the sādhya, the sādhya and its negation are opposed even without the difference of determinants and hence the hetu and the sādhya do not co-exist. In other words, when the sādhya is absent in some locus of the hetu, this particular locus of the hetu is incompatible with the sādhya as such (though in a correct inference the sādhya in some character different from or other than the determinlng essence of it can be shown to be negated in the locus of the hetu). But they can co-exist, when the hetu has

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78. Gangeśa follows the view of Prabhākara in this case. Prabhākara holds that in an inference in which the hetu has a limiting adjunct, the determining essence of the hetu is not the determinant of the co-existence of the hetu with the sādhya (Vide, Māthurī p. 170. Tattvacintāmaṇi, Part. II.

79. Dīdhiti

a limiting adjunct and the sādhya, as determined by the hetu, is pervasive, because the limiting adjunct does not pervade the hetu, i.e., is not the connotation of the hetu.[80]

Thus the limiting adjunct attached to the hetu does not allow the sādhya to exist in the Vipakṣa (a dissimilar instance) and generated colour is such an adjunct. Hence in a fallacious inference in which the sādhya does not exist in the locus in which the hetu exists, the limiting adjunct attached to the hetu is not unnecessary.[81] Indeed if the sādhya and its negation do not co-exist, there is no necessity of showing an opposition caused by the difference of the determinants of the sādhya. And in a fallacious inference the sādhya exists in the locus of the hetu in some cases and is negated in some locus of the same. In the fallacions-inference, "It has smoke, as it has fire," smoke exists on the hill, kitchen, etc, which are the substrata of fire, but not in the red-hot iron-ball which is also a locus of fire. In such cases the limiting adjunct brings about the co-existence of the sadhya and the hetu. Smoke co-exists in every case with fire supported by wet-fuel. Further the inference, "This hetu is inconstant (fallacious), as it has a limiting adjunct". is possible, because it is found that in some substratum of the hetu as such (i.e., without the adjunct) the sādhya exists and in some not. Hence in a fallacious inference in which the hetu is inconstant, the limiting adjunct is indispensable. But as Vyāpti is the state of co-existence of the hetu with the sādhya and as the determining essence of the hetu does not determine this co-existence in the case of the hetu having a limiting adjunct the limiting adjunct which pervades the sādhya and which, being attached to the hetu and being co-existent with it, brings about the co-existence of the hetu and the sādhya, is admissible in an inference in which the hetu is not a constant concomitant of the sādhya.[82] Indeed the limiting adjunct shines in the hetu even as the red-flower is reflected in the crystal. But it (the limiting adjunct) does not pervade the hetu, though it pervades the sādhya. Again any adjunct which does not pervade the hetu cannot be called a limiting adjunct (upādhi) of the hetu, unless it definitely implies so. Of course if the adjunct which does not pervade the hetu stands in the way of the inferential conclusion, then it is faulty. But a limiting adjunct of the hetu does not stand in the way of the inferential conclusion, as the limiting adjunct of the hetu pervades the sādhya and does not help the non-sādhya to be inferred in the Pakṣa. In fact the limiting adjunct is not a futile adjective like the epithet "blue" in the wrong inference, 'It has fire, as it has "blue" smoke. It is a useful adjunct of the hetu, but limits it and hence is not the connotation or determining essence of the hetu.

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[80] Tattvacintāmaṇi.

[81] Gangeśa follows the view of Prabhākara here also.

[82] Gangeśa here follows the view of Udayana.

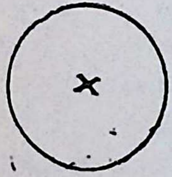
CHAPTER IX

CONCLUSION

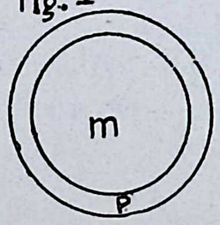
(Symbolic representation of the definitions of Vyāpti discussed in the work)

We have discussed after the Neo-Nyāya authors, many definitions of invariable concomitance (Vyāpti) and in explaining these definitions and their distinctions we have confined ourselves to the examples selected by the authors themselves. But these examples are in some cases outmoded. So let us try to explain these definitions and their distinctions by the help of symbols.

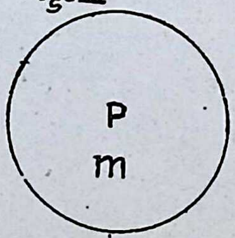
In Chapter I five definitions of Vyāpti or objective invariable relation between the hetu (the probans) and the sādhya (the probandum) have been discussed. The first definition means that vyāpti is the absence of the hetu in the locus of the absence of the sādhya. Let p represent the sādhya, m the hetu and s the pakṣa (the subject of inference) respectively and let x be a circle in which p is absent. Now the definition can have the following diagrammatic representation :—



Tig. I



Tig. II



Here x excludes p and correspondingly m is also excluded from it. Hence it may be said that all m is p, But the converse may not be true, i.e., p may be wider than m and this is represented by fig. I. Fig. II represents the case where m and p have equal extension i. e., a u proposition.

The definition does not apply to an inference in which the locus of m is a single spatial whole and p is present in a part of the locus of m and absent in some other part. For here p is absent where m is present, The second definitions attempts to remove this defect of the first definition. Here Vyāpti is the absence of m in the locus of the absence of p provided this locus of the absence of p is different from locus of p. In this case the possibility of p being absent where m is present is excluded. In other words, here not-p excludes both the complete and partial presence of p and no m is not-p. But "No m is not-p" is the obverse of "All m is p." Thus m is the invariable concomitant of p.

The second definition assumes that the negation of p in a part of the locus of m is different from the negation of p in n. But this is not a universally accepted opinion.. So a definition of vyāpti should charactetise vyāpti even without assuming the view that negation is different in different loci. The third definition meets this point. This definition means that vyāpti is non-co-existence of m with the reciprocal negation of the locus of p.

The defect, however, of the third definition is that one specific instance of p may be different from another specific instance of p in which m may be present. So the fourth definition tries to remove this defect of the third. The fourth definition means that vyāpti is the absence of m in all instances of the absence of p.

But there may be a case of inference in which there are not many instances of the absence of p, but only one such-instance. So the fifth definition removes this deficiency of the fourth. The fifth definition is that vyāpti is the absence of m in what is other than any instance of p. Apparently the definition states the exclusion of m or the hetu from all that is other than the probans (sādhya) i. e., p and says nothing about any positive connection of m with p. But this follows from not-p (from which m is excluded) being taken as an infinite negation. Since not-p means the whole universe minus p,

Fig. I

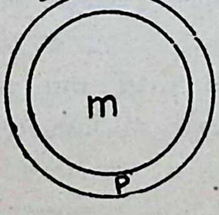
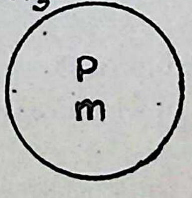
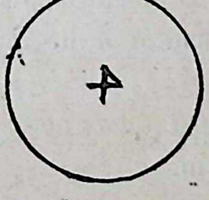


Fig. II





exclusion from not-p means necessarily inclusion in or coincidence with p. In the diagram, the circle x is different from the circle p and the circle m is excluded from the circle x. Hence all m is p.

All these five definitions require the non-existence of p in some form or other. But there may be an instance of inference where p is universally present. To this inference none of the five definitions applies.

In Chapter II two definitions are discussed and both of them mean that when there is non-existence of m in not-p, we have vyāpti of m with p. But if vyāpti is defined in this way, then the definition turns to be too-narrow. Consider, for instance, an inference in which p is universally present (when p is knowability, it is universally present, everything being knowable according to Nyāya). An instance of not-p is not available in such a case.

In chapter III, Raghunātha discusses fourteen definitions assuming negation determined by the essence of an opposed substratum to be valid. Such a negation, e. g. the negation of p in the character of q-ness, is universally present. The first two definitions are given by Raghunātha himself. The first definition means that when m co-exists with every negation of p (as such) in the character of q-ness—a peculiar negation in which p and its negation are co-present—, we have vyāpti. This definition applies to the inference in which p is universally present, for the negation of p in the character of q-ness holds good everywhere. Now p may mean a specific instance of p, say p_1 (e.g, when p is fire, its specific instance is hill-fire). The second definition of Raghunātha emphasises that p and not p_1 should be taken to be negated in the character of q-ness.

We have now three definitions of Cakrabortti :—

(1) Vyāpti is the co-existence of m with p when p-ness is not the determinant of p as a negatum of the negation which pervades all instances of m.

(2) The vyāpti of m with p is the co-existence of m with p, when p does not co-exist with q whose negation pervades all instances of m.

(3) Vyāpti of m with p is the co-existence of m with p when p

does not co-exist with q which is entitatively absent where m is present.

The first definition of Cakrabortti is alleged to be too-narrow according to the view that the negation of p in the character of q-ness and the negation of q in the character of p-ness are the same both the negations being all-pervasive. In other words, the negation of q pervedades all instances of m and if the negation of q in some opposed character is the same as the negation of p in some opposed character, then the negation of q is the same as the negation of p. But this alleged defect is removed in the second definition.

Again the second definition of Cakrabortti may be alleged to be too-narrow. For consider the inference, "S has p, as it has m" There is the negation of p and m in the character of p-ness in the locus of m and m and p co-exist. This defect is removed in the third definition. For q as such is absent in the instances of m, if the locus of q is to be different from the locus of m and certainly p does not co-exist with q when q as such is absent in the locus of m.

Raghunātha discusses after Cakrabortti three definitions of Pragalbha Miśra:—

(1) Vyāpti of m with p is the co-existence of the negation of p in the character of q-ness with m as also with p which is determined by p-ness.

But it may be objected that in the inference, "S has p, as it has m", there may be an illusory knowledge of the negation of p, in the chracter of q-ness, in the locus of m and as such there may be an obstruction of the knowledge of p there.

As a reply we have the second definition of pragalbha. This definition means that (2) when there is a knowledge of p as co-existing with its negation, (i. e, in the character of q-ness, for example), there would not be any obstruction of the locus-hood of p in the locus of m.

Now Raghunātha says that in both these definitions "the negation of p" is superfluous. It is enough if it be said that the negation co-present with m co-exists with p as determined by p-ness.

In the third definition of Pragalbha, however, "the negation of p" is not superfluous. This definition runs as follows: (3) When there is no real bar to a valid inference of that which exists in the locus of the absence of p (in the character of q-ness), we have vyāpti. But this definition is too-wide according to Raghunātha. Consider a wrong inference, "s has p, as it has m", where p does not exist in every locus of m. There is the knowledge that m exists in the locus of the negation of p in the character of q-ness and this knowledge is no bar to the knowledge of the co-existence of m and p.

After the definitions of Pragalbha we have three definitions of Pakṣadhara Miśra. The first definition of Pakṣadhara may be put in the following manner: The vyāpti of m with p is m being characterised by a negation which is a pervasive character of every substrate homogeneous with every case of the negation of p of any kind. In other words, when no m is not-p or when p is negated in the character of q-ness in r and r is negated in the character of non-r in m, we have vyāpti of m with p.

But it may be that m inheres in p, P_1 and P_2 and in the inference, "It is p, as it is an m other than the m's that are P_1 and P_2", p is negated in P_1 and P_2 in which m inheres, i.e. it is negated in the m's that are P_1 & P_2. The result is that that the definition does not apply to this case. As a reply to this, we have the second definition of Pakṣadhara, which runs as follows:—Vyāpti of m with p is m having the nature which is pervaded by the determinant of the negatum whose pervasive negation characterises all the denotata of the negation of p either in the character of p-ness or in the character of of q-ness. In the above inferenee, p is negated in P_1 and P_2 aud m as negated in P_1 and P_2 inheres in m's other than the m's that are p_1 and P_2 and hence there is no avyāpti.

The third definition of Pakṣadhara is simpler in comparison with the first and the second. It means that m is in vyāpti relation with p, when the nature, which m has, is pervaded by the nature which p possesses as the negatum of its negation either in the character of p-ness or in the character of q-ness. P as such is absent in not-p and m is also absent in not-p Now p as such pervades m as such.

After explaining the definitions of Pakṣadhara, Raghunātha discusses and rejects three definitions of Sārvabhauma. The first two definitions of Sārvabhauma run as follows:—(1) Vyāpti of m with p means m being existentially co-extensive with all that is the negation of the negation of p.

(2) Vyāpti of m with p means m being existentially co-extensive with the negation of all instances of the negation of p.

The difference between the two definitions is that in the second definitions we heve "all the negations of p" and in the first we have "negation of p". The meaning of the two definitions is practically the same,

Now both these definitions are defective, says Raghunātha. Consider, for example, the fallacious inference, "S is other than x, as it is m in time relation." Here p is equal to other than x". Now p is negated in x both in the character of p-ness and in the character of q-ness and in x m is negated in the character of non-m. Hence the definitions apply to a wrong inference and are too-wide".

The thitd definition of Sārvabhauma differs from the second only in form but not in meaning and hence it is also too-wide.

In chapter IV Gangeśa rejects a number of definitions as being defective:

(1) When the locus of m is characterised by the absence of n which is absent in the locus of p, we have vyāpti.

(This defininition does not apply to an inference in which p is universally present.

(2) Vyāpti of m with p is the co-existence of m with p, when p is not absent in the locus of m.

This definition is incomplete or too-narrow. Consider the inference, "s has p, as it has m". A specific instance of p is negated in the locus of m and a specific instance of p is also p.

(3) Vyāpti of m with p is the co-existence of m with p, when p has not reciprocal non-existence with the locus of m.

This definition does not apply to an inference in which the locus of m is a single spatial whole and p exists in a part of the locus of m. There is the reciprocal negation of p with *the part* of the locus of m in which p is not present.

(4) Vyāpti is the co-existence of m with p, when p is not the substratum of the qualities whose substratum is incompatible with the qualities existing in the locus of m.

This definition does not apply to an inference in which p is universally present.

(5) When m without having any limiting adjunct co-exists with p, we hate vyāpti of m with p. Now this definition means that m is absent in the places in which p is absent. But in that case the definition does not opply to an inference in which p is universally present.

(6) Vyāpti of m with p is a universal relation. It is the co-existence of p with all specific instances of m or the co-existenc of m with all the instances of p.

The defect of this definition is that it does not apply to an inference in which m is singular. Again the alternative, 'm is to co-exist with all instances of p", does not apply to and A proposition like "all m is some p".

(7) m as such is p. Now vyāpti is either caused by the very nature of m or the nature of m is the ground of vyāpti. In the former case there is a too-wide application of the definition in a wrong inference in which p is a plurality and m is only one of this plurality. Consider the wrong inference, "It represents all substances, as it is earth". The co-existence of earth-hood with substance-hood is eternal and not caused. .In the latter case the definition applies to a wrong inference in which p exists only in a particular locus of m and not in all. Consider the wrong inference, "It is a substance, as it has existence". Existence inheres in substance, attribute and action and the co-presence of substance-hood with existence is a natural one.

(8) When m is different from what exists in the substratum of the absence of p, we have vyāpti of m with p. This definition does not apply to an inference in which p is universally present.

(9) Whenever m co-exists with p, we have vyāpti of m with p. But even in a fallacious inference, m co-exists with p in some locus

or loci, but there is not invariable relation between m and p. Fire co-exists with smoke in the kitchen, but not in the electric blub. Hence the definition is defective.

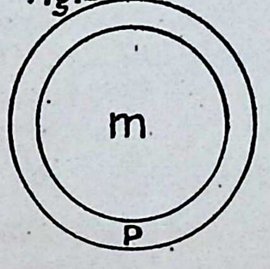
(10) Vyāpti is the universal co-existence of m with p, when p is universally present; but in an ordinary inference (e, g, It has smoke, as it has fire), vyāpti is the absence of m in what is different from the substratum of p. But this definition is defective, because m may exist in a locus which is the reciprocal negation of the locus of p. In the inference, "The hill has fire, as it has smoke", the hetu "smoke" exists in the kitchen which is other than the hill, the locus of the sādhya "fire".

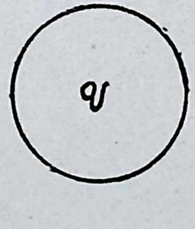
(11) Vyāpti of m with p is the absence of m in all instanses which are different from all instances of p. But a particular instance of p (taken distributively) is different from all the instances of p (taken collectively) and m may exist in that particular locus. So this definition is also defective.

In Chapter V we have Gangeśa's final conclusion as regards the definition of Vyāpti. His final definition runs as follows: —

Vyāpti of m with p is the co-existence of m with p when p is not determined by q-ness and q is entitatively absent in the locus of m, i. e, the locus of q is different from the locus of its absence.

Tig. I





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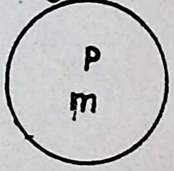

The circle q is excluded from the circle m and also from p. Hence all m is some p (Fig. I), or all m is all p (Fig. II). Now when p is universally present, p is not determined by anything absent in the locus of m and m co-exists with p. In fact, the definition does not demand the absence of p and hence well applies to an inference in which p is universally present. Similarly, the definition applies to an inference in which the locus of m is a single spatial whole and p exists in a part of the locus of m. For the definition clearly states that vyāpti of m with p is the co-existence of m with p which is not determined by the essence of q, when q is absent in the locus of m and the substratum of q is different from that of its negation. Thus p cannot be shown to be negated in the locus of m, as the object absent in the locus of m should have a locus different from the locus of m and p exists in a part of the locus of m. Hence this final definition applies to all types of inference.

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